

FIG. 1

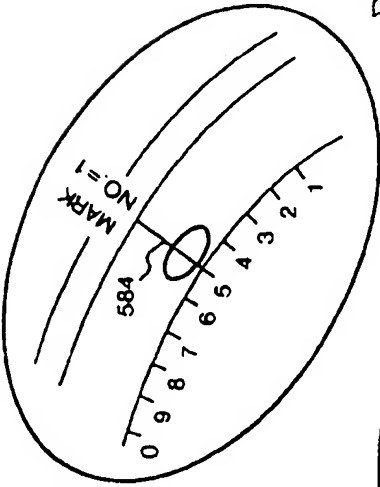


FIG. 2B

FIG. 2C

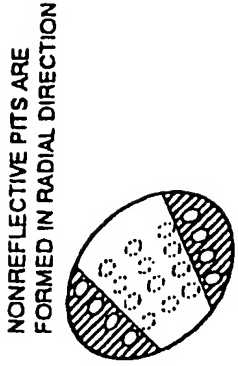


FIG. 2A

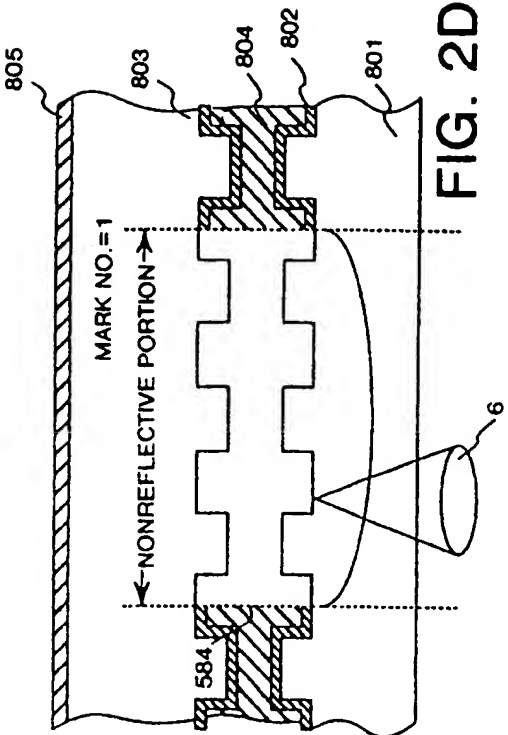
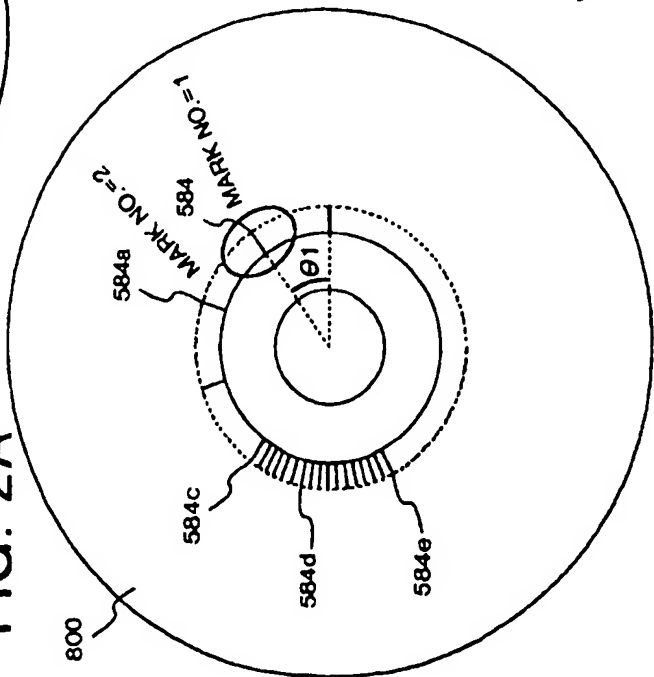


FIG. 2D

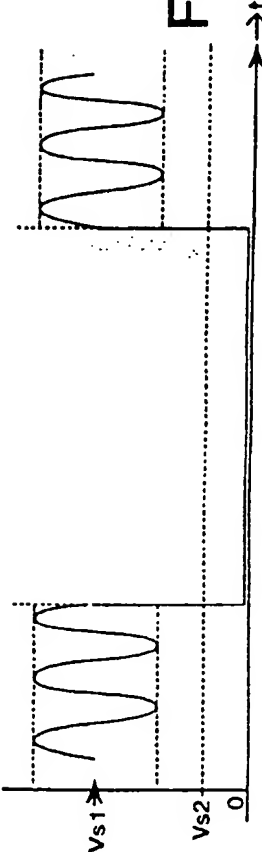


FIG. 2E

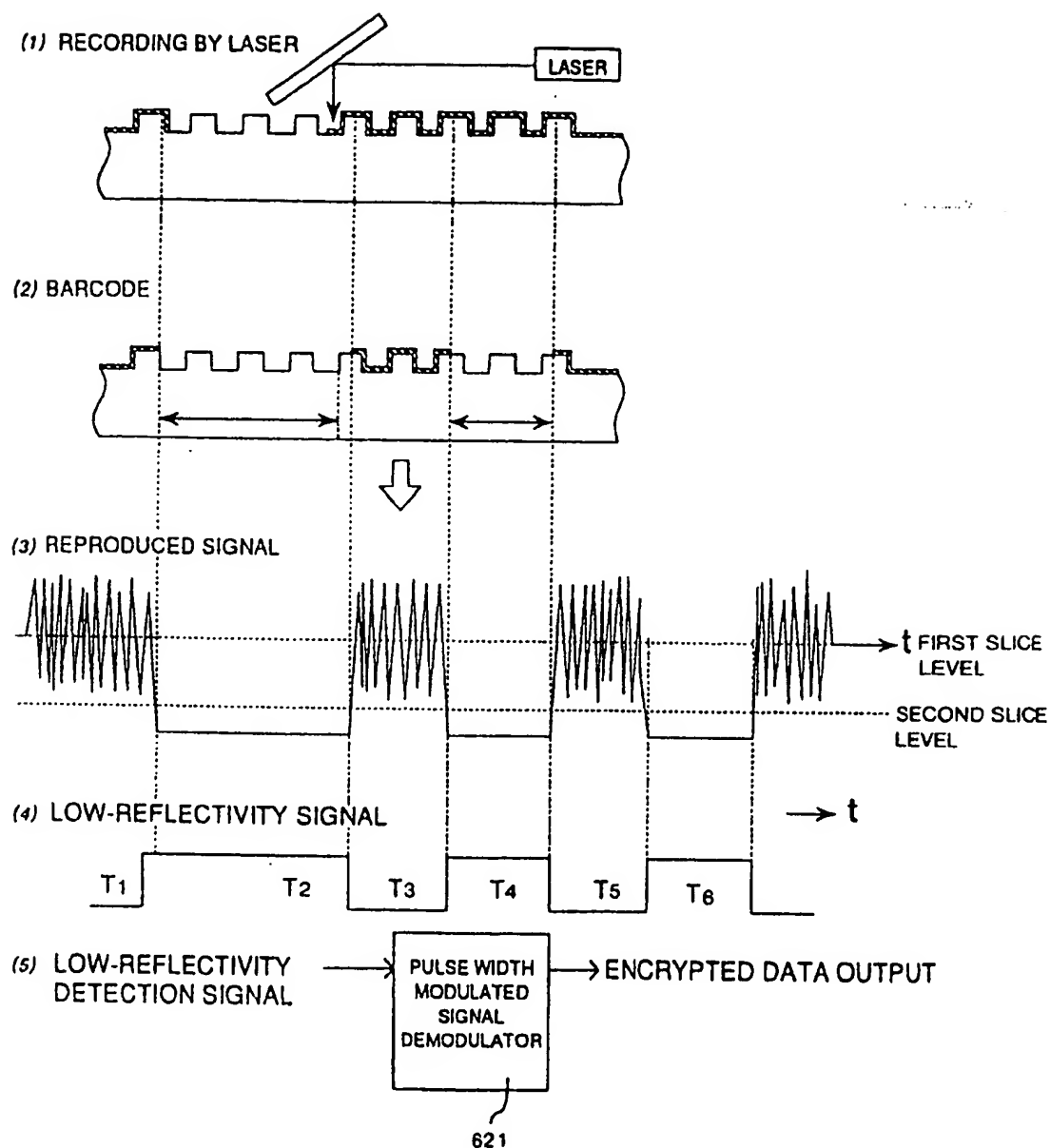


FIG. 3

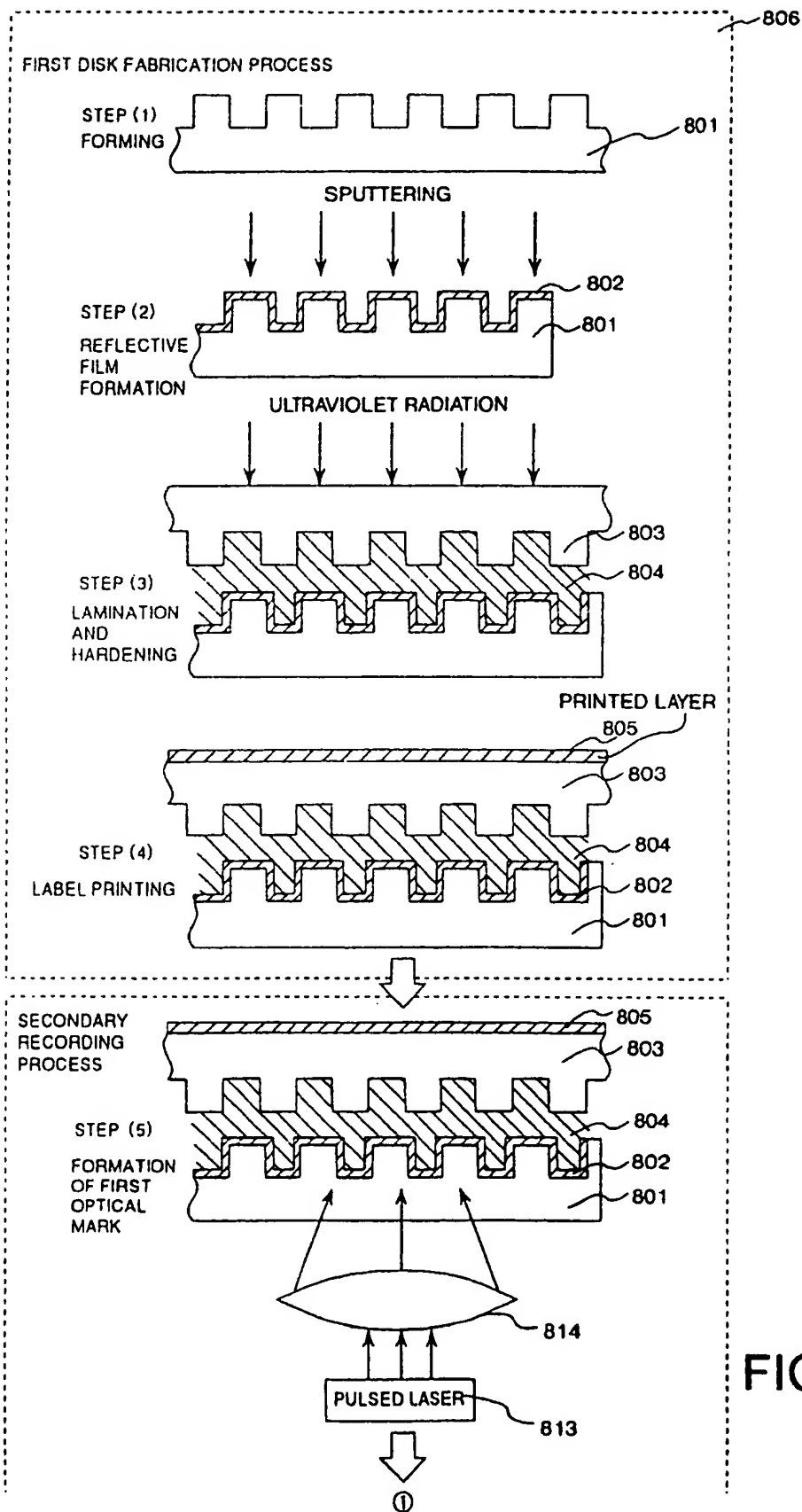
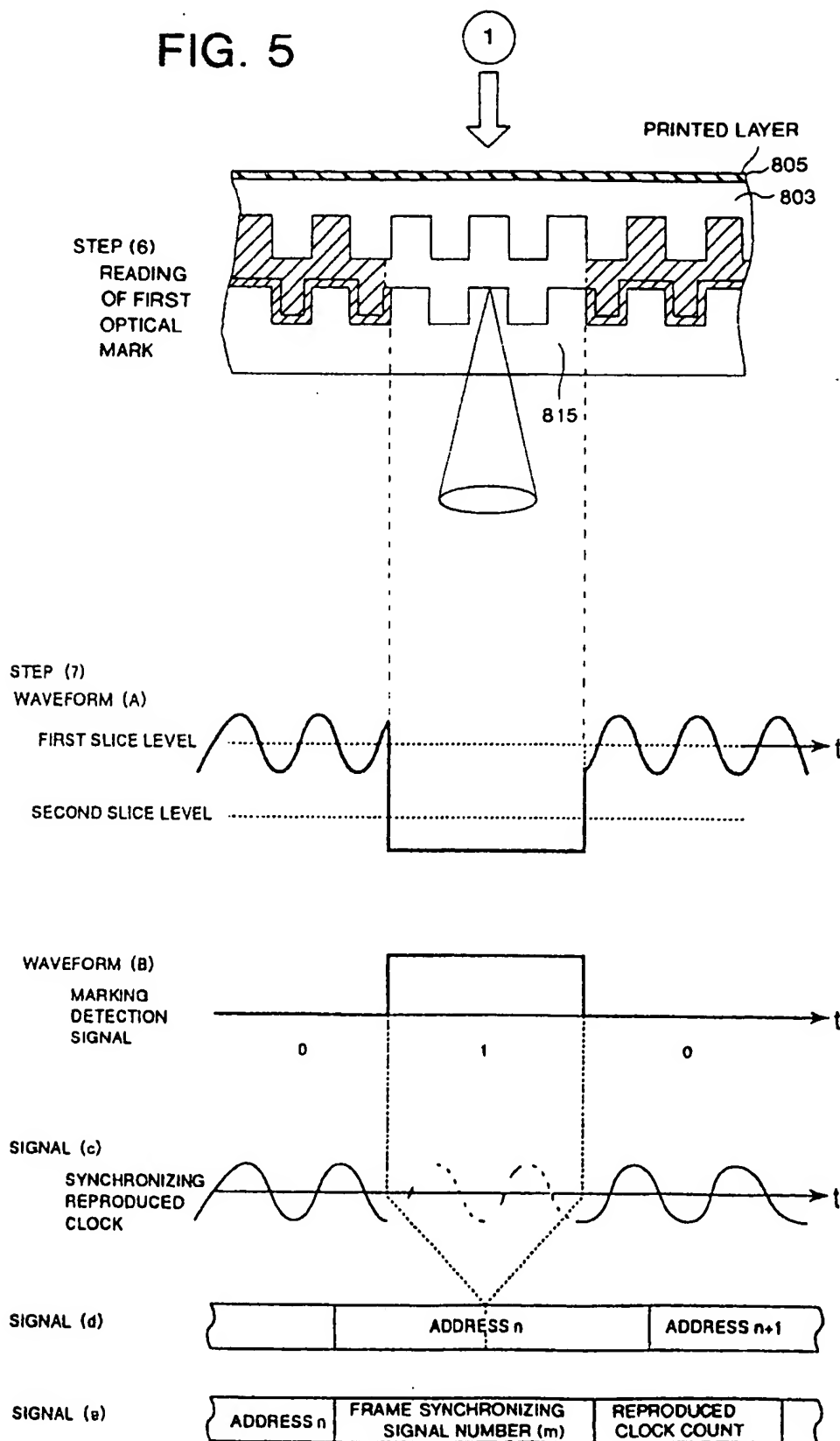


FIG. 4

FIG. 5



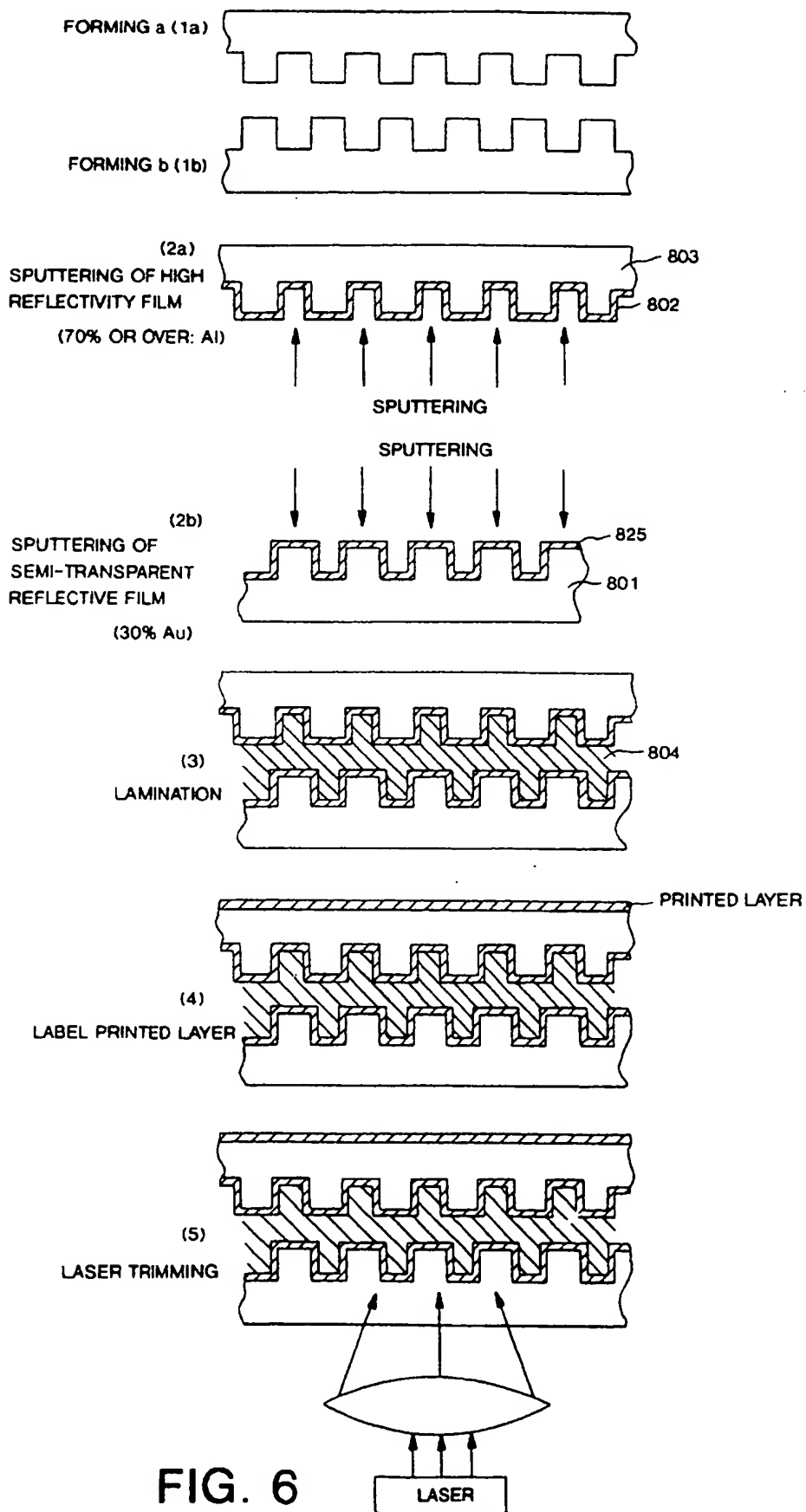
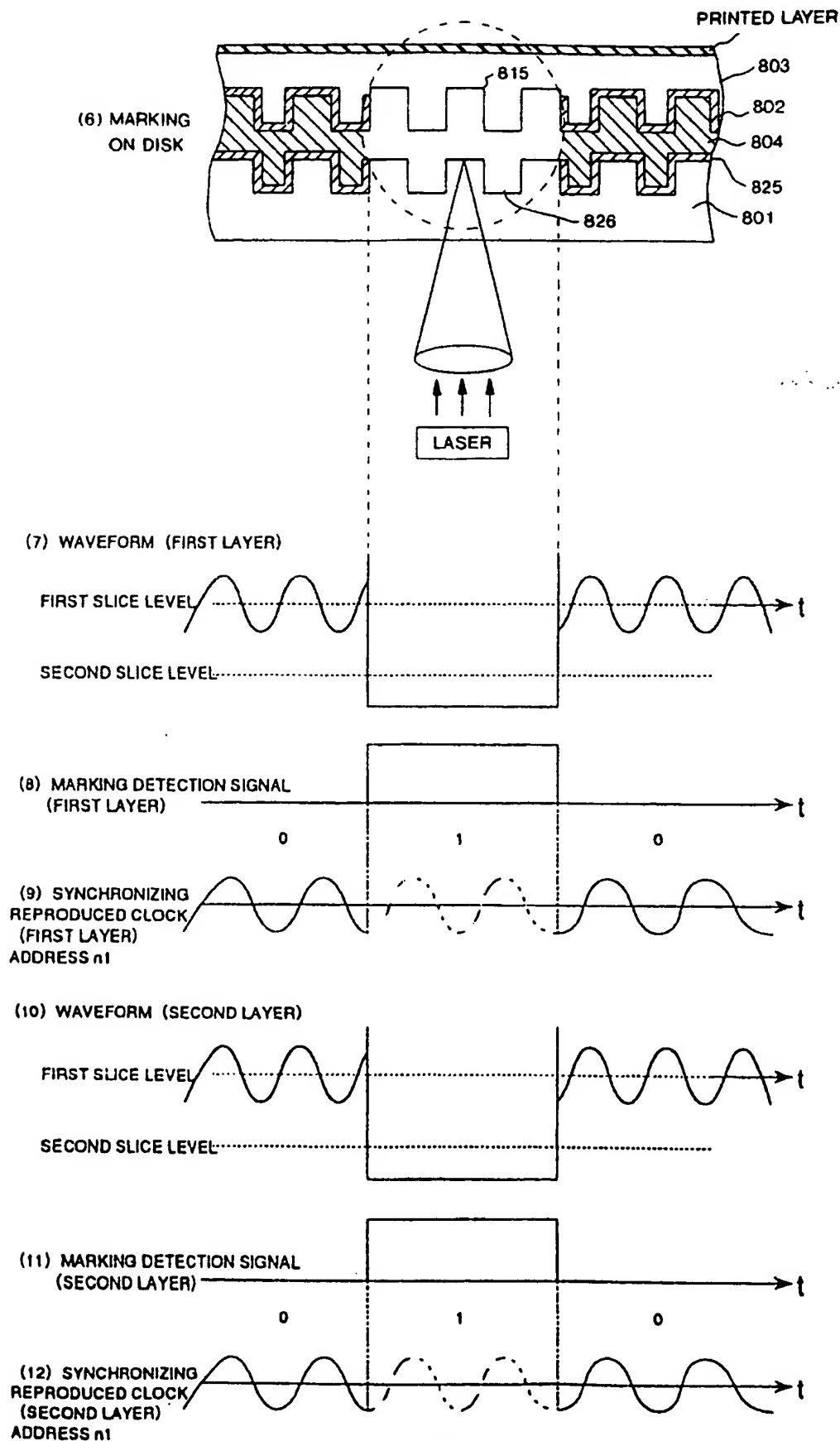


FIG. 6



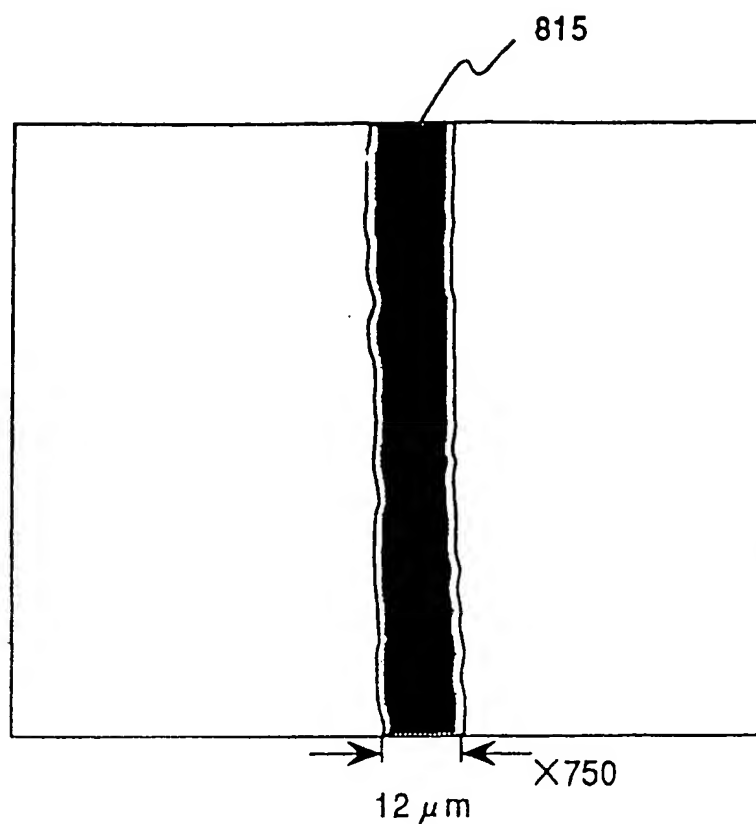


FIG. 8A

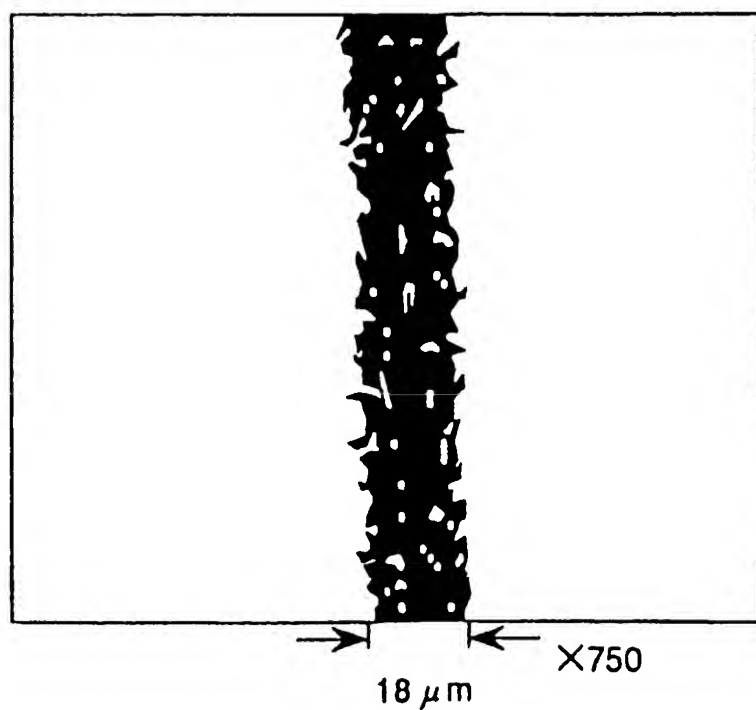
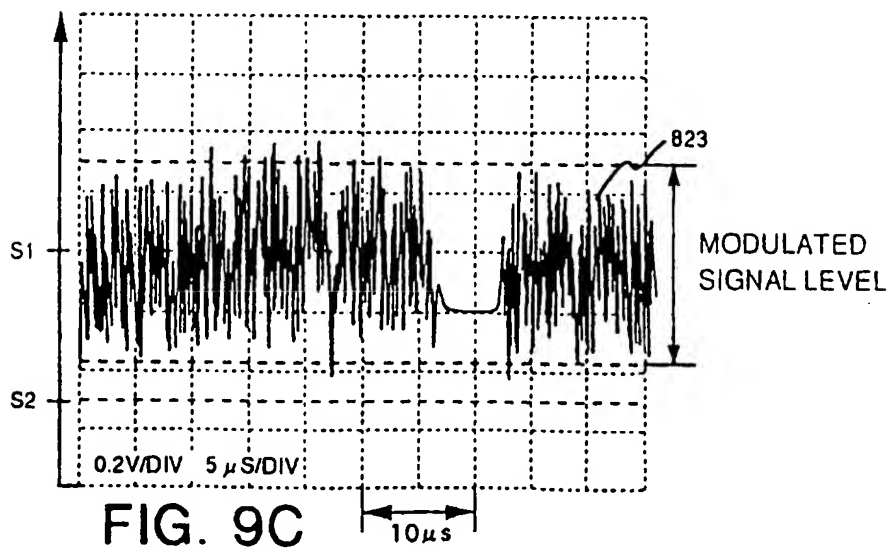
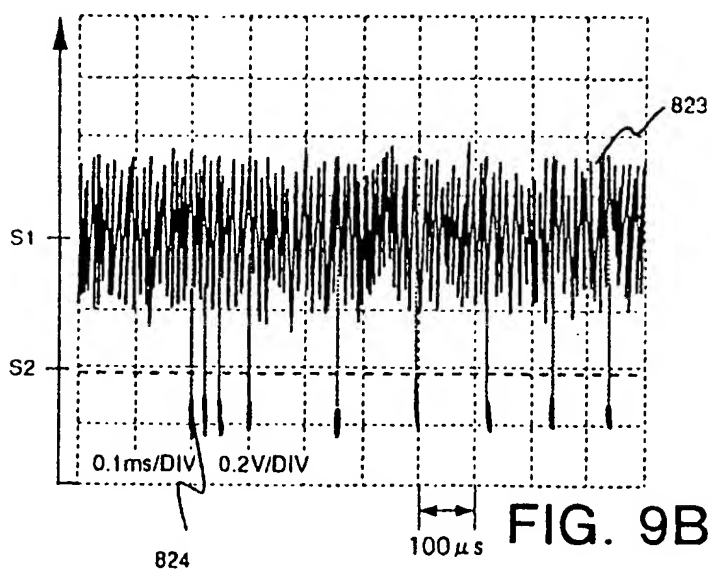
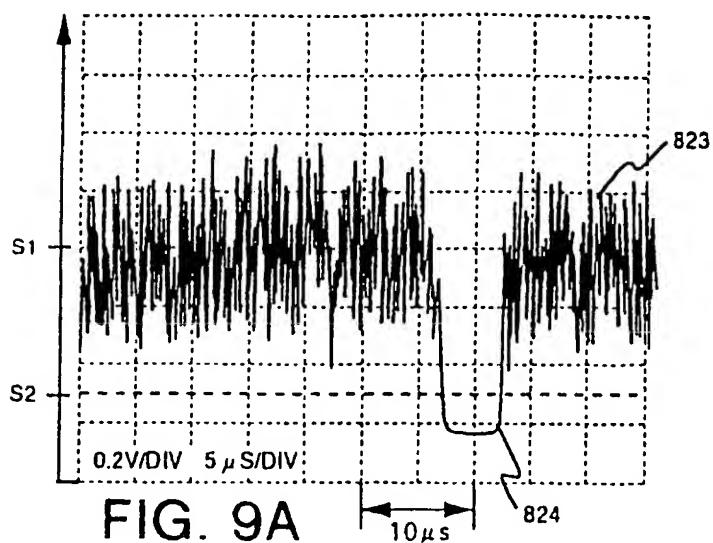


FIG. 8B



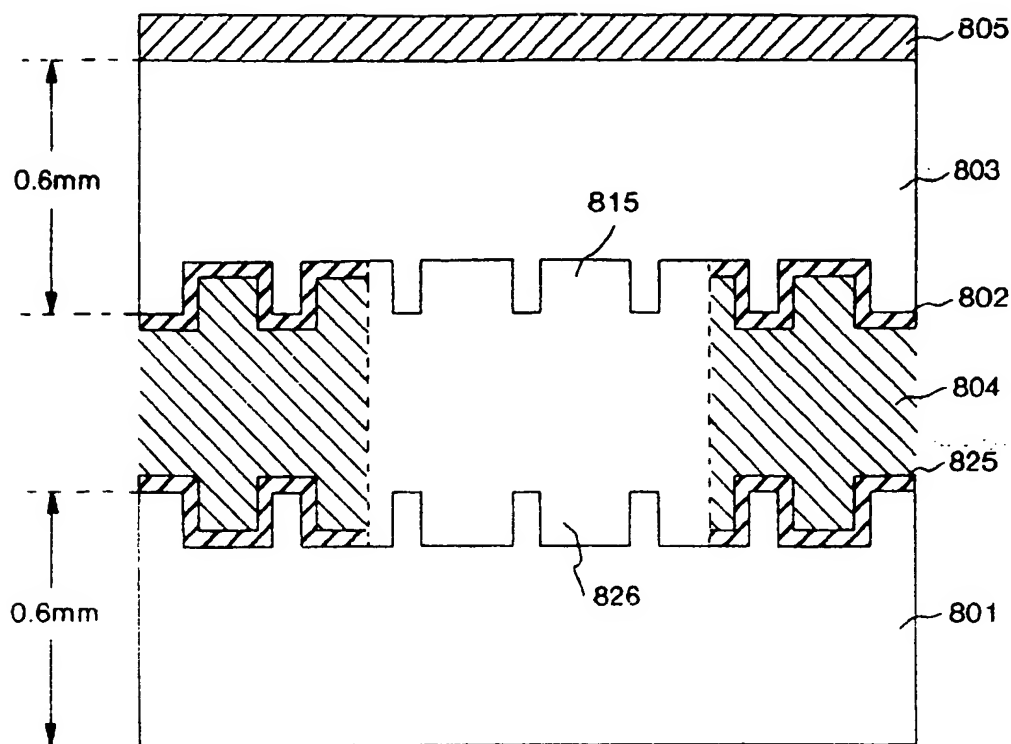


FIG. 10A

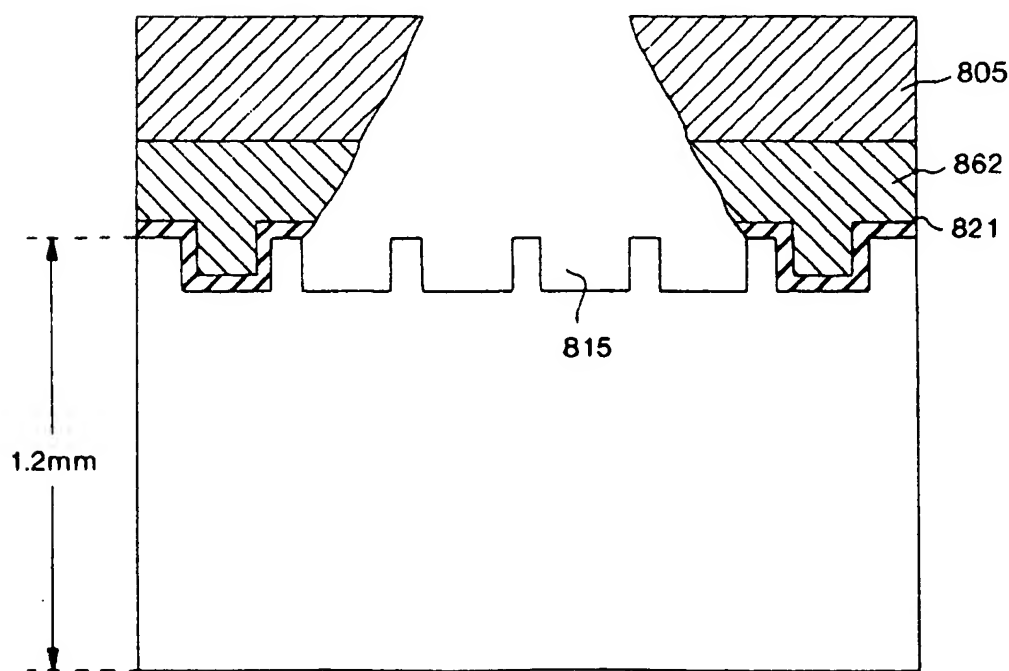


FIG. 10B

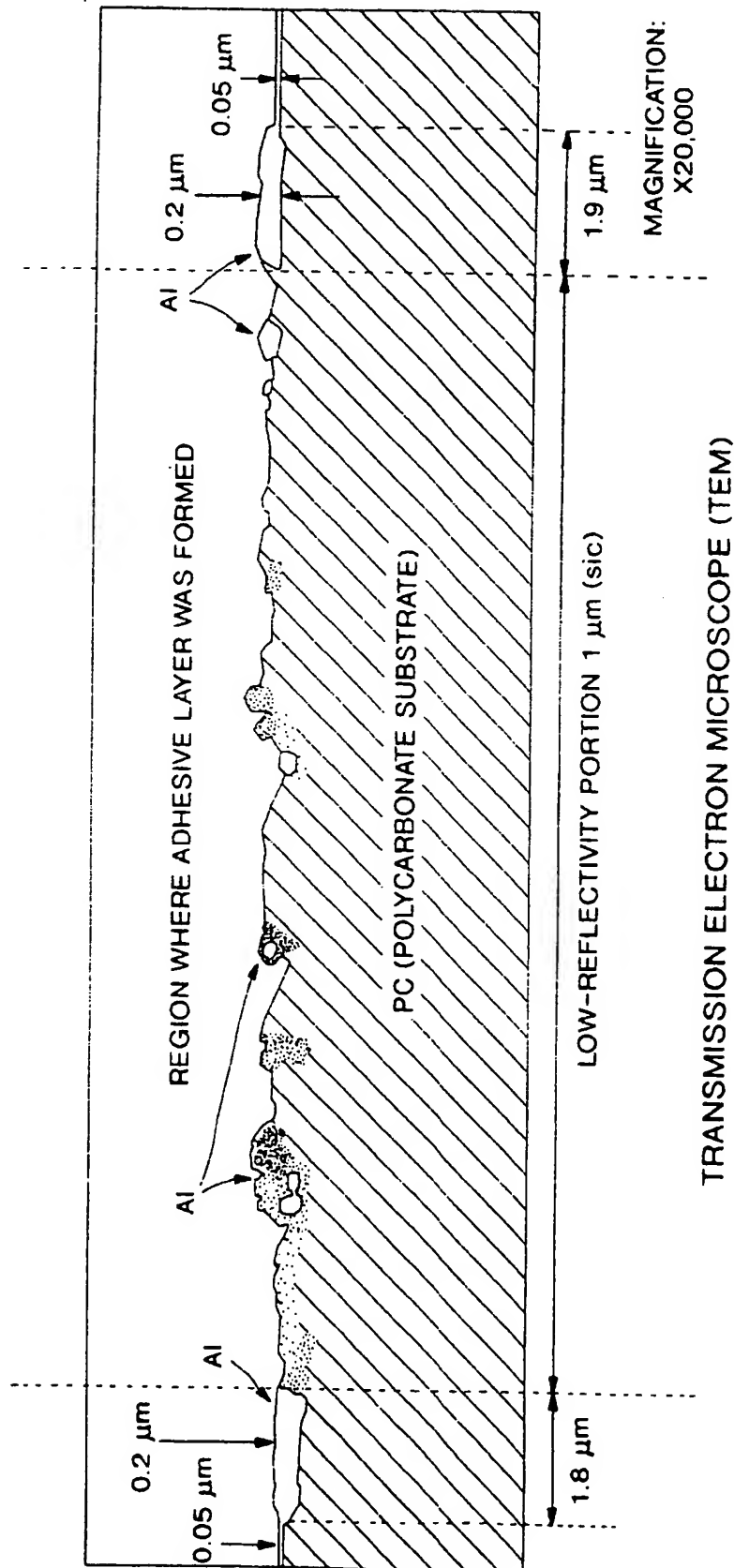


FIG. 11

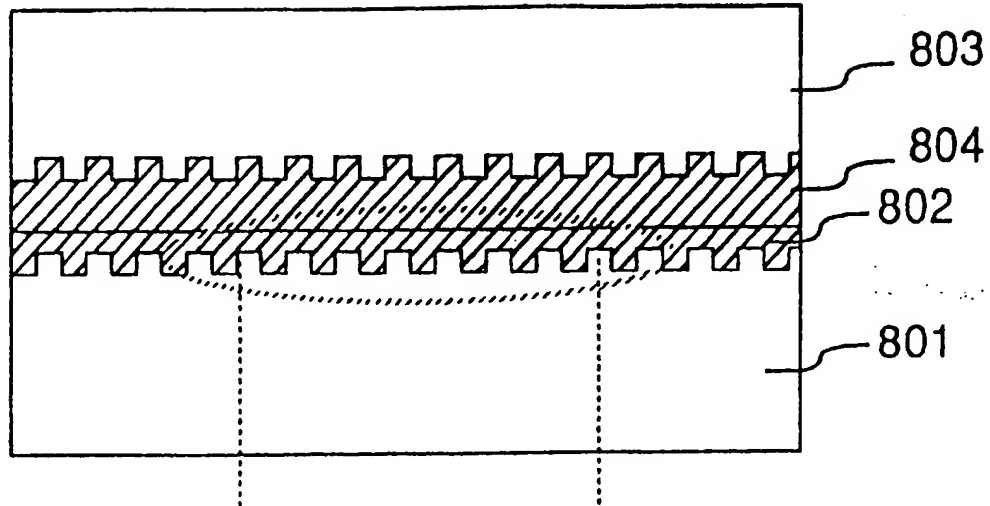


FIG. 12A

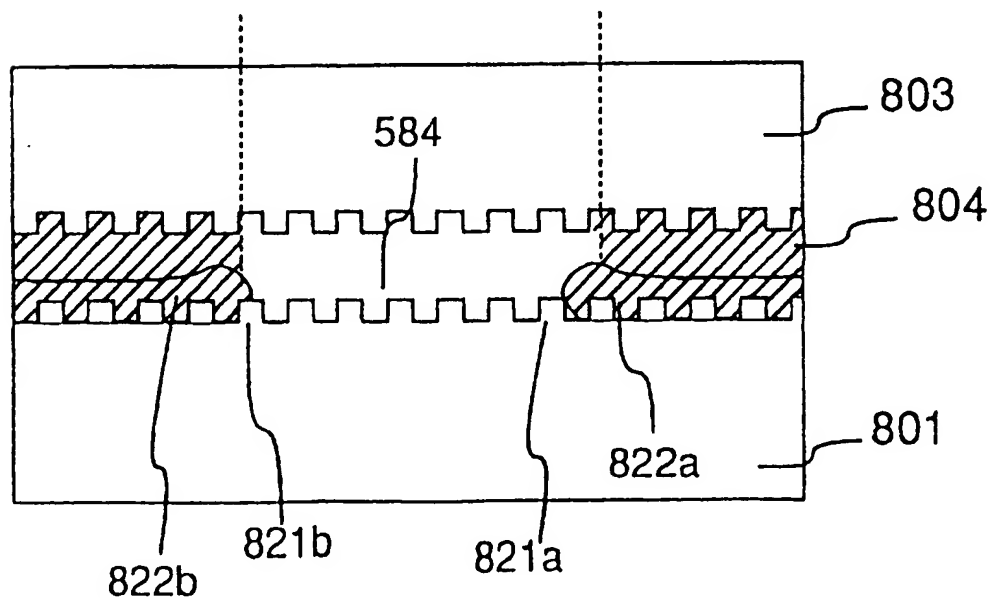


FIG. 12B

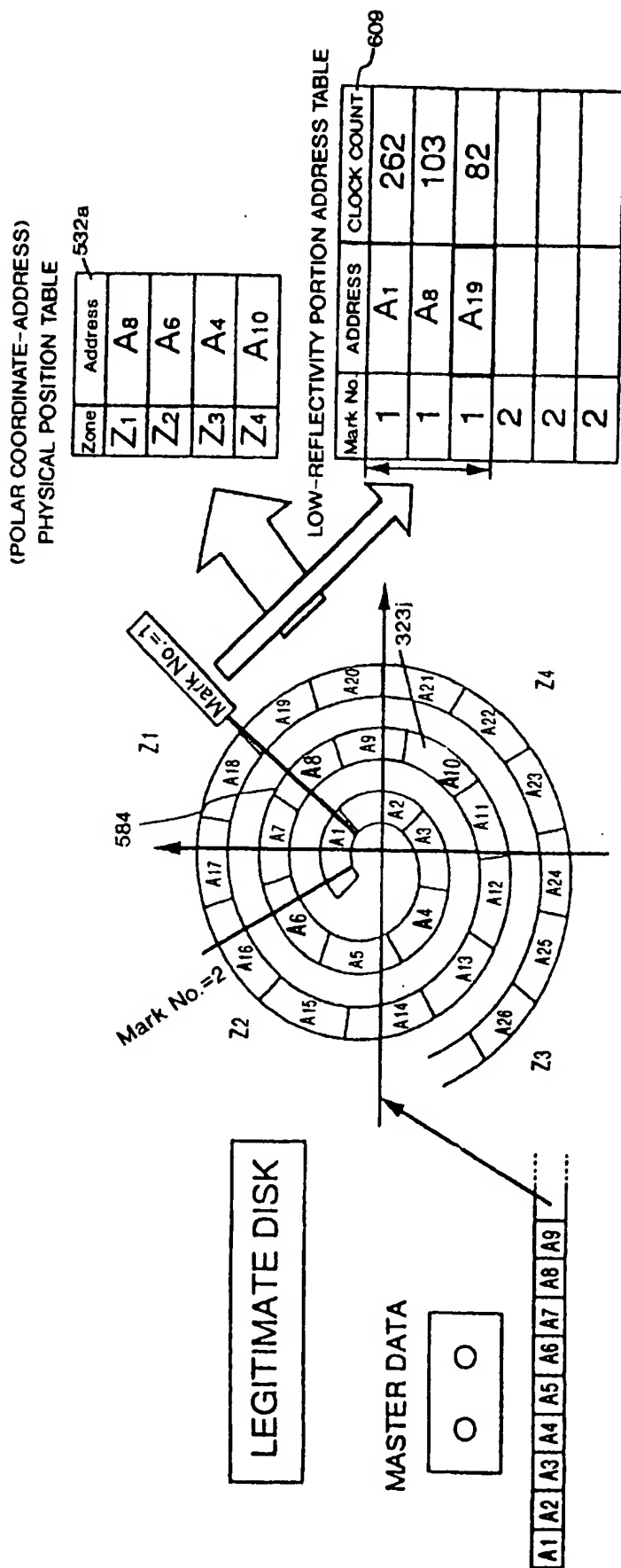
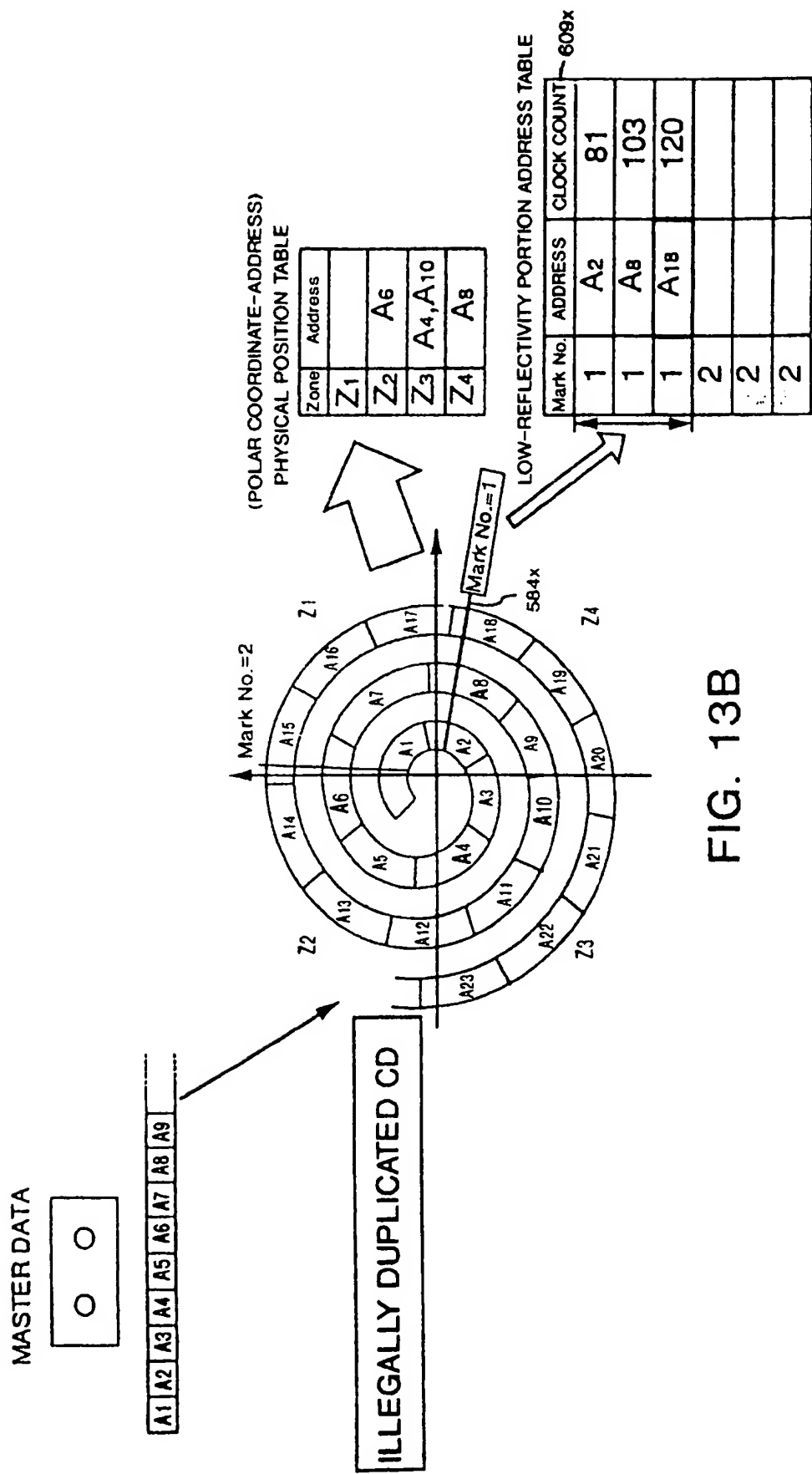


FIG. 13A



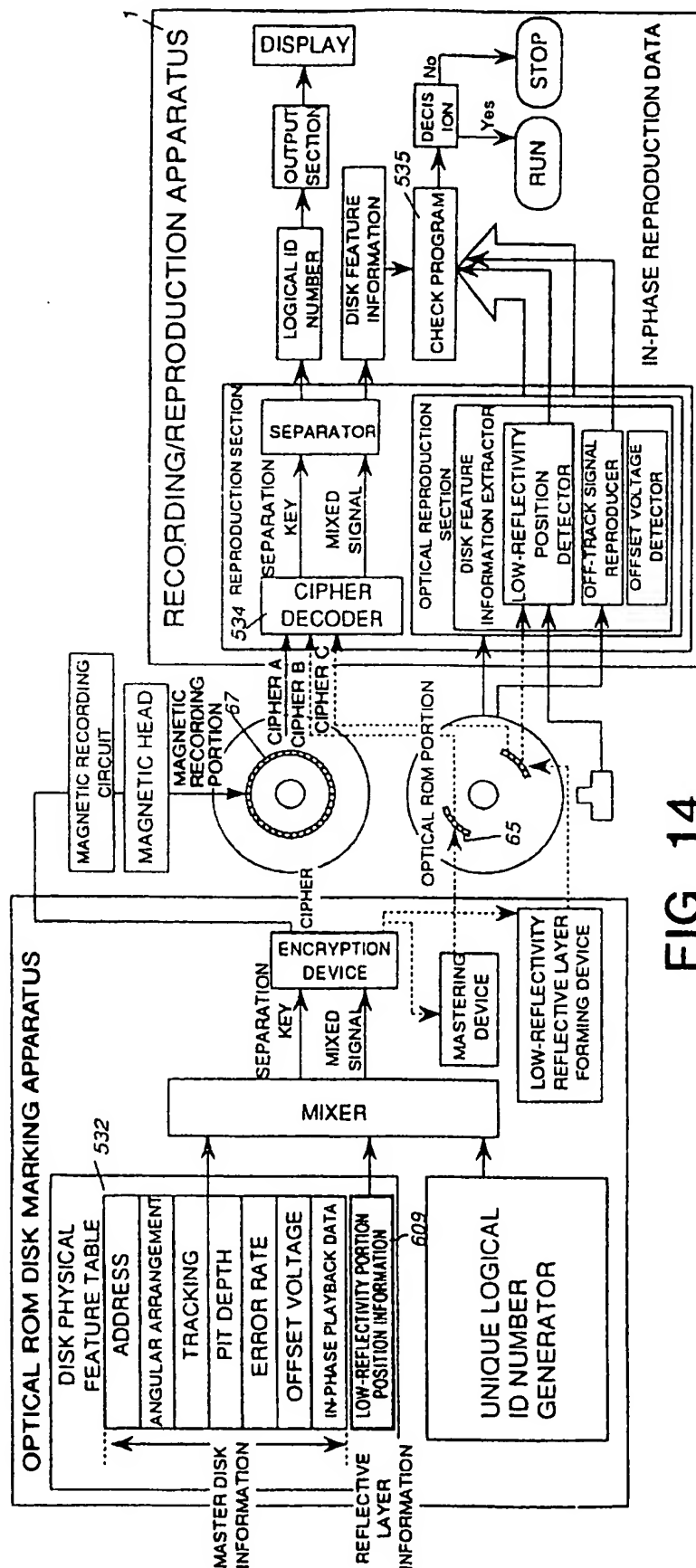


FIG. 14

FIG. 15

The diagram illustrates a complex signal processing system for a low-reflectivity portion. It begins with an **OPTICAL PLAYBACK SIGNAL** entering a **HPF** (High Pass Filter) block 590a, followed by a **WAVEFORM SHAPING CIRCUIT** block 590. This circuit contains an **AGC** (Automatic Gain Control) and a **LEVEL SLICER FIRST SLICE LEVEL** block. The output of the waveform shaping circuit goes to a **DEMODULATOR EFM** block 591. A **CLOCK REGENERATOR** block 38a is also connected to the demodulator. The demodulator outputs a **SEBCODE SIGNAL** 591 and a **DEMODULATED CLOCK** 592. The SEBCODE signal is processed by an **ECC** (Error Correction Code) block 36. The demodulated clock is fed into a **LOW-REFLECTIVITY POSITION DETECTOR** block 586, which includes a **LOW-REFLECTIVITY LIGHT AMOUNT DETECTOR** 587 and a **LIGHT AMOUNT COMPARATOR (LEVEL SLICER)** 588. The comparator has two reference levels: **LIGHT AMOUNT REFERENCE VALUE (FIRST SLICER)** and **LIGHT AMOUNT REFERENCE VALUE (SECOND SLICER)**. The output of the position detector is a **LOW-REFLECTIVITY PORTION DETECTION SIGNAL** 588. This signal is fed into a **MARK SIGNAL DETECTOR (PHYSICAL ADDRESS OUTPUT SECTION)** 593, which produces a **MARK SIGNAL** 593. The mark signal is then processed by an **ADDRESS OUTPUT SECTION** 594 and a **SYNCHRONIZING SIGNAL OUTPUT SECTION** 595. The synchronizing signal is fed into a **SYNC COUNTER** 598a and a **CLOCK COUNTER** 598b. The address output section produces an **n-1 ADDRESS OUTPUT SECTION** 598a. The sync counter and clock counter are connected to a **LOW-REFLECTIVITY PORTION START/END POSITION DETECTOR** 599. The start/end position detector is connected to a **LOW-REFLECTIVITY PORTION ADDRESS/CLOCK NUMBER POSITION SIGNAL** 599. This signal is fed into a **LOW-REFLECTIVITY PORTION SIGNAL DEMODULATOR** 600. The demodulator includes a **TIME DELAY CORRECTOR REFERENCE DELAY TIME TO MEASURING SECTION** 607 and a **CIRCUIT DELAY TIME STORING SECTION** 608a. The demodulator outputs a **SECOND LOW-REFLECTIVITY PORTION SIGNAL INPUT SECTION** 598c, which is connected to a **DEMODULATED CLOCK (COUNTER) REPRODUCER** 598d. The reproduced clock is fed into a **LOW-REFLECTIVITY PORTION ANGULAR POSITION SIGNAL OUTPUT SECTION** 598e. The angular position signal is then fed into a **LOW-REFLECTIVITY PORTION ANGULAR POSITION DETECTOR** 598f. The output of the angular position detector is a **LOW-REFLECTIVITY PORTION ANGULAR POSITION SIGNAL** 598f. This signal is fed into a **DISK ROTATION ANGLE INFORMATION** block 800, which also receives input from the **LOW-REFLECTIVITY PORTION DETECTION SIGNAL** 588. The disk rotation angle information is then fed into a **DISK ROTATION ANGLE BY OPTICALLY RECORDED SIGNAL** block 800. The output of this block is a **ROTATION MARK** 800. The rotation mark is then fed into a **ROTATION ANGLE DATA BY OPTICAL** block 800. The output of this block is a **ROTATION ANGLE DATA BY OPTICAL** signal 800. This signal is then fed into a **COMPARING MEANS** block 534, which is connected to a **CIPHER DECODER** block 534. The cipher decoder is connected to an **ID NUMBER OUTPUT SECTION** 750. The output of the ID number output section is a **LOW-REFLECTIVITY PORTION ANGULAR POSITION SIGNAL** 750.

OPTICAL
SENSOR — OPTICAL ROTATION MARK

800

DISK ROTATION ANGLE INFORMATION

ROTATION ANGLE DATA BY OPTICALLY

RECORDED SIGNAL	D
ROTATION ANGLE DATA BY OPTICAL	

ROTATION MARK

FIG. 17

LEGITIMATE DISK

LOW-REFLECTIVITY PORTION ADDRESS TABLE

MARK NO.	START POSITION		END POSITION	
	ADDRESS	Sync No	ADDRESS	CLOCK NUMBER
1	A n	S1	n	m+257
1	A n+12	S2	n+12	m+267
1	A n+23		n+23	m+300
:	:	:	:	:
2	A n+1		n+1	m+160
2	A n+13		n+13	m+250
2	A n+24		n+24	m+210
10	A n+9			
10				

PLANNING

ILLEGALLY DUPLICATED DISK

LOW-REFLECTIVITY PORTION ADDRESS TABLE

MARK NO.	START POSITION		END POSITION	
	ADDRESS	Sync No	ADDRESS	CLOCK NUMBER
1	n	S1	n	m+257
1	n+12	S2	n+12	m+277
1	n+22		n+22	m+230
:	:	:	:	:
2	n+1		n+1	m+190
2	n+13		n+13	m+281
2	n+25		n+25	
10	n+9			
10				

FIG. 17

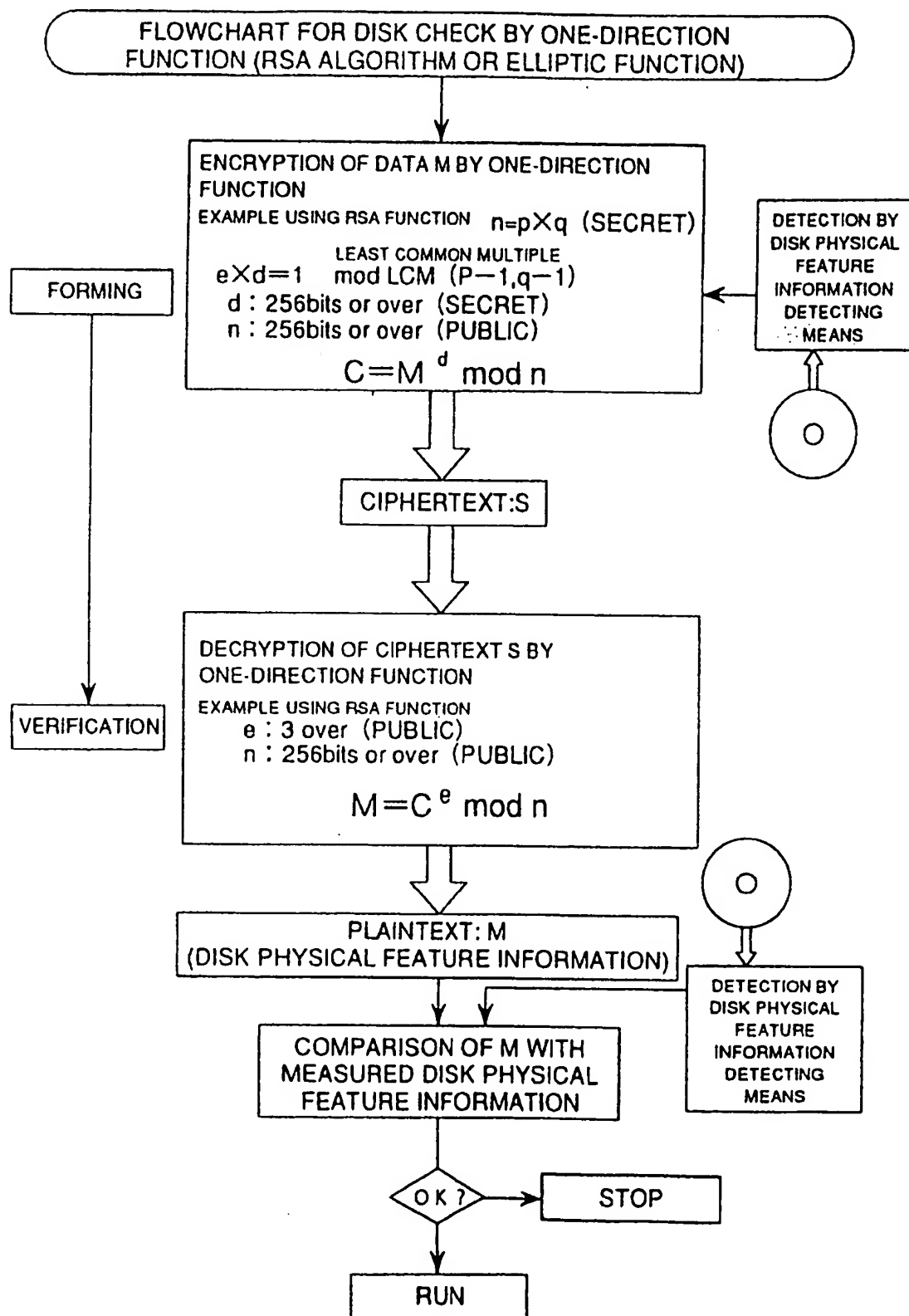


FIG. 18

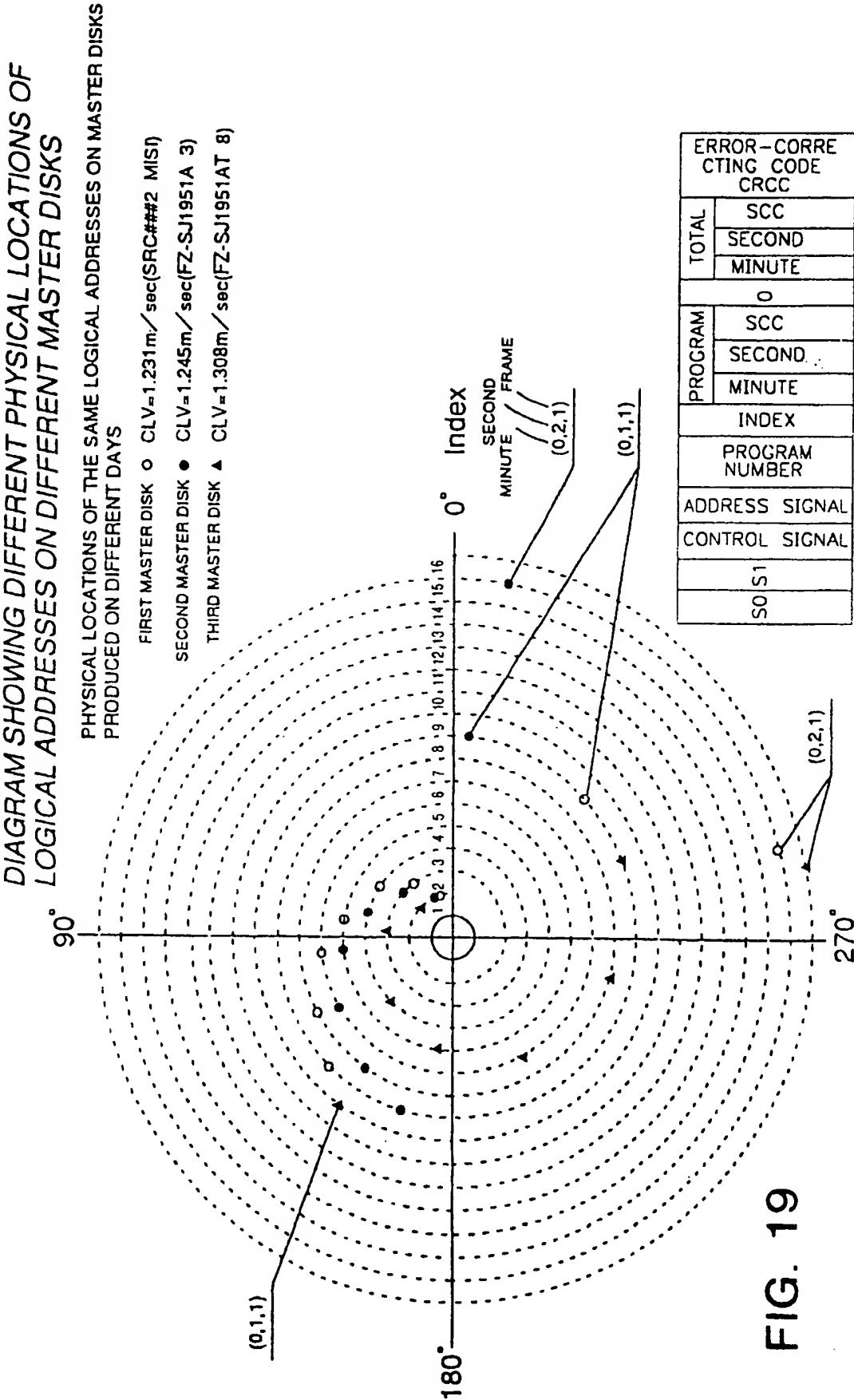


FIG. 19

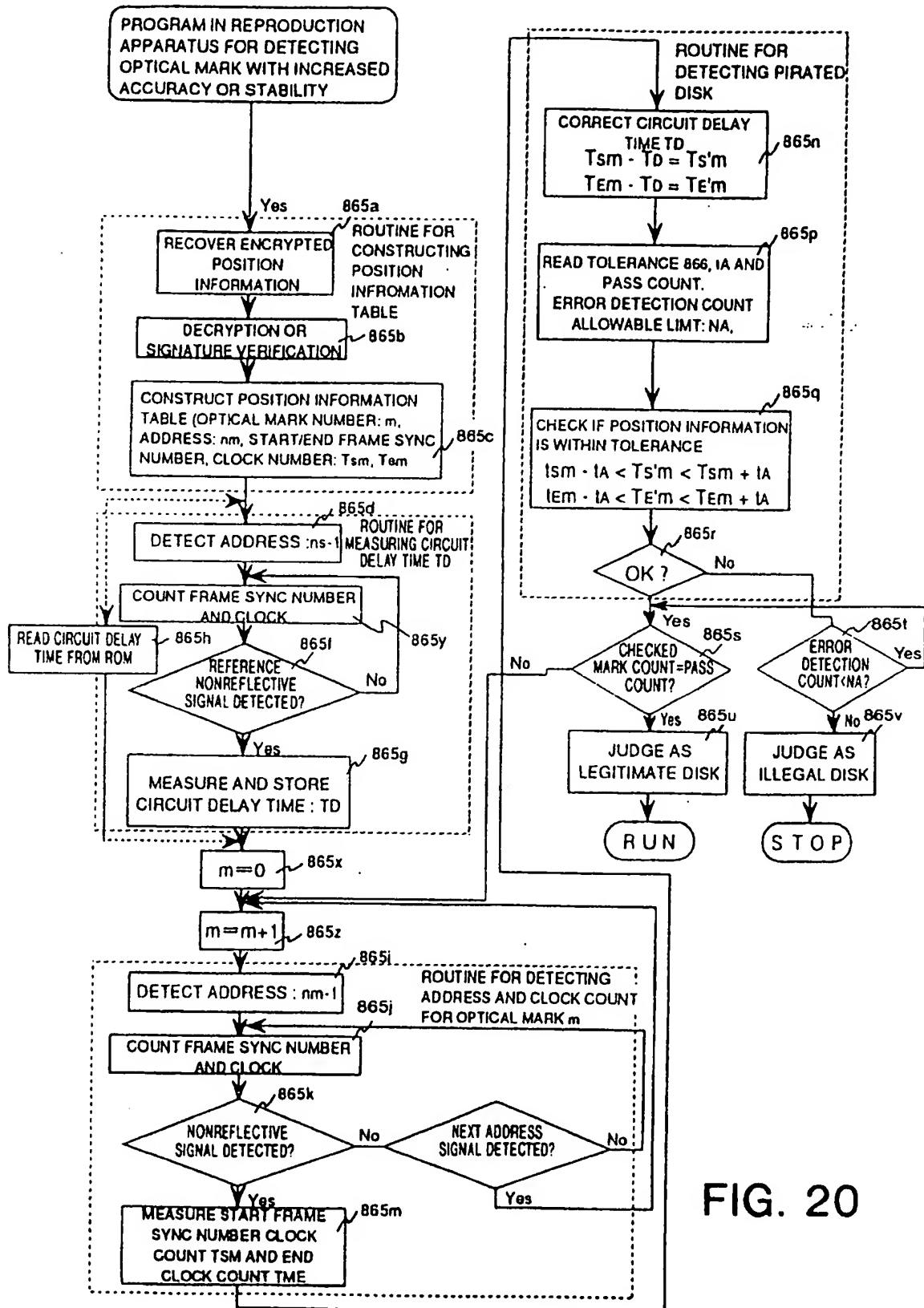


FIG. 20

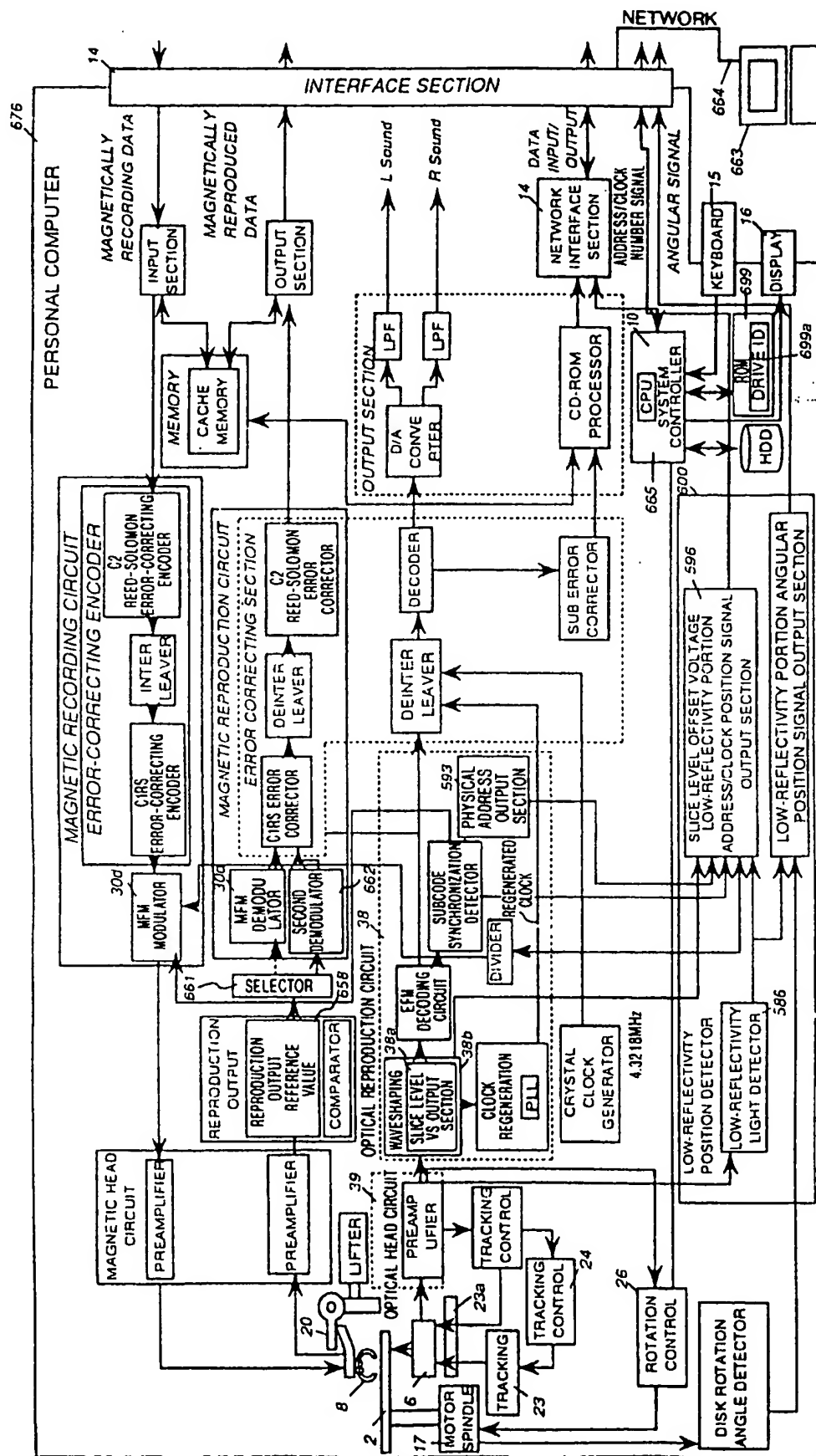


FIG. 21

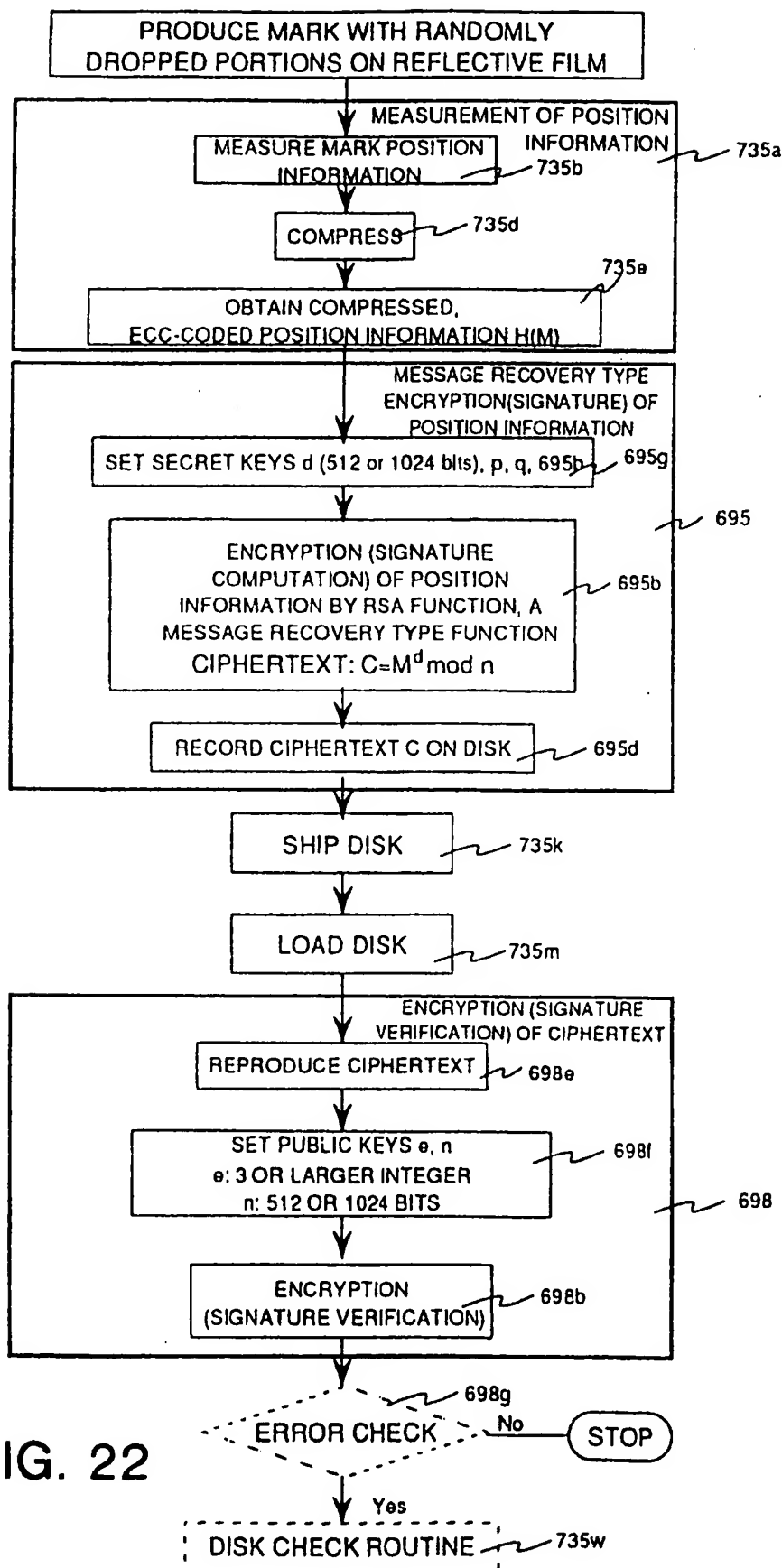


FIG. 22

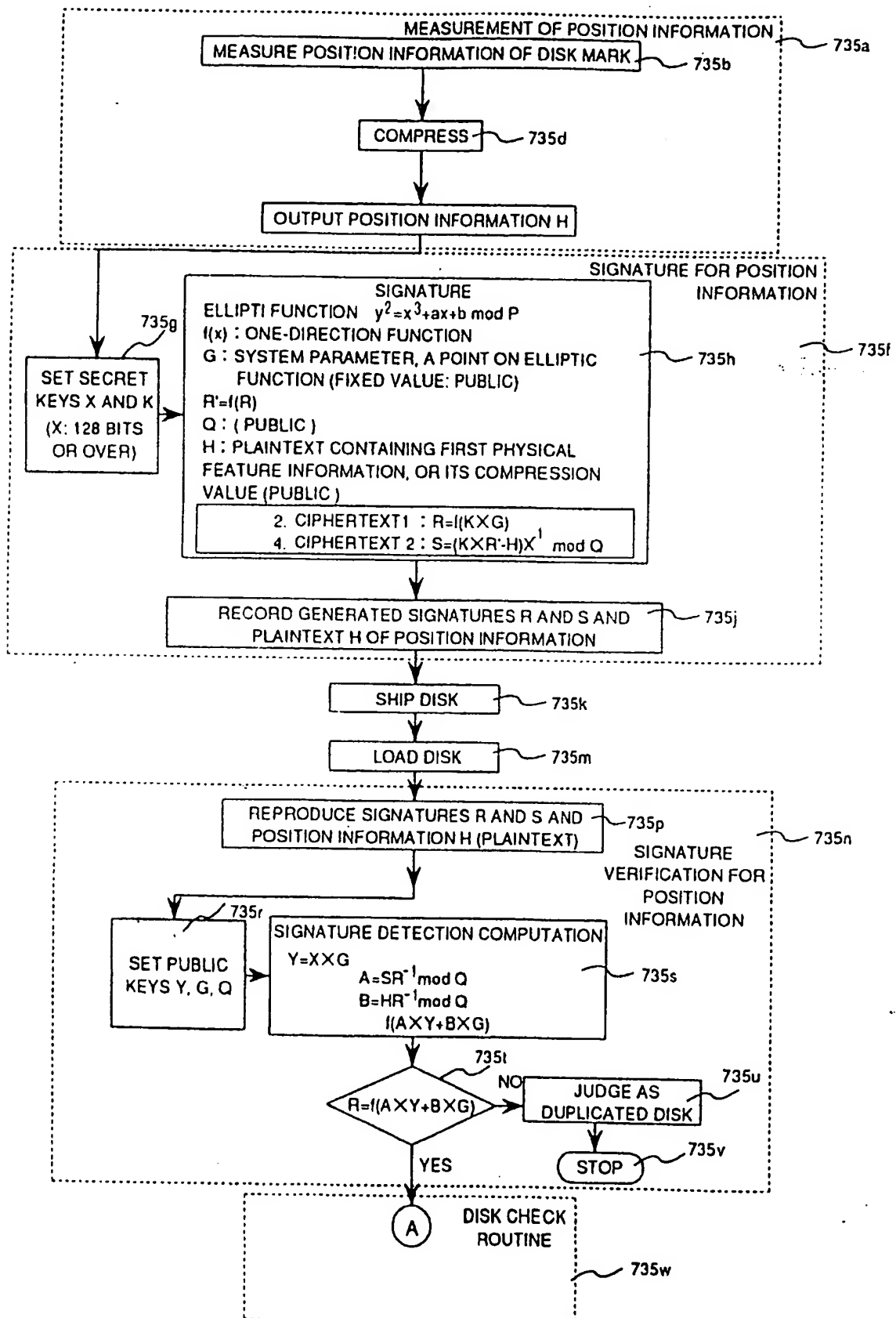


FIG. 23

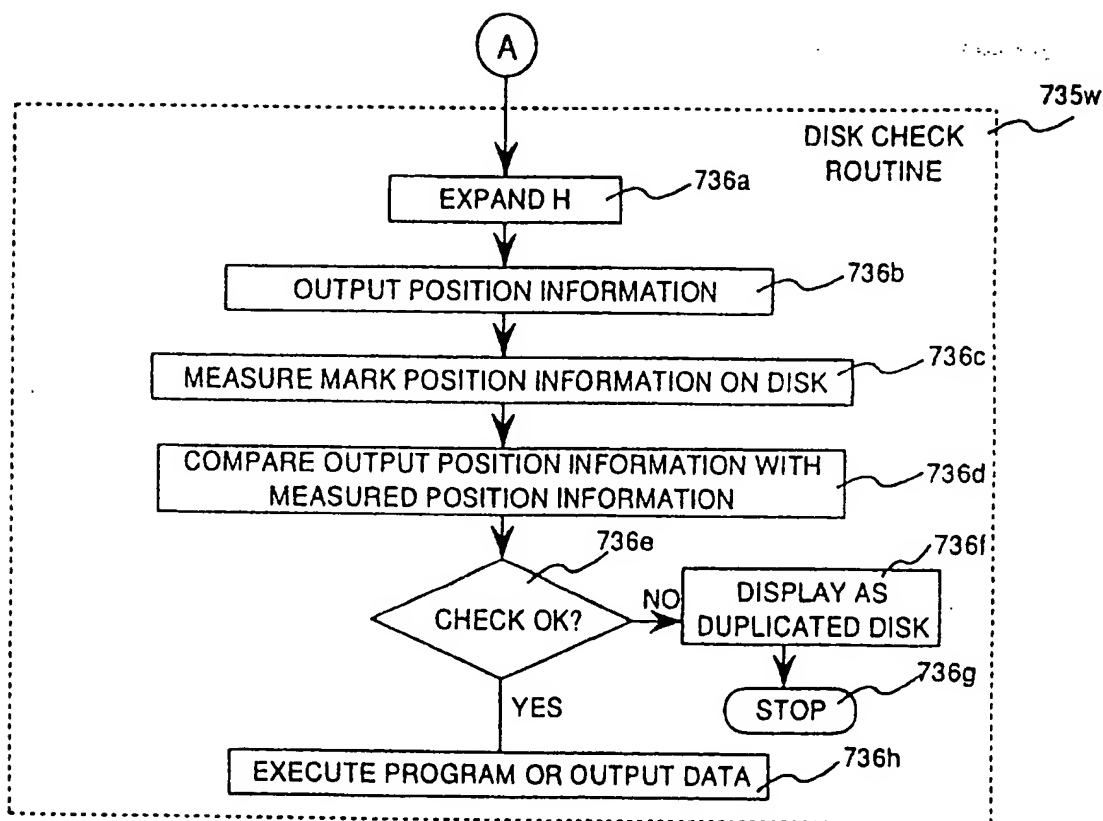


FIG. 24

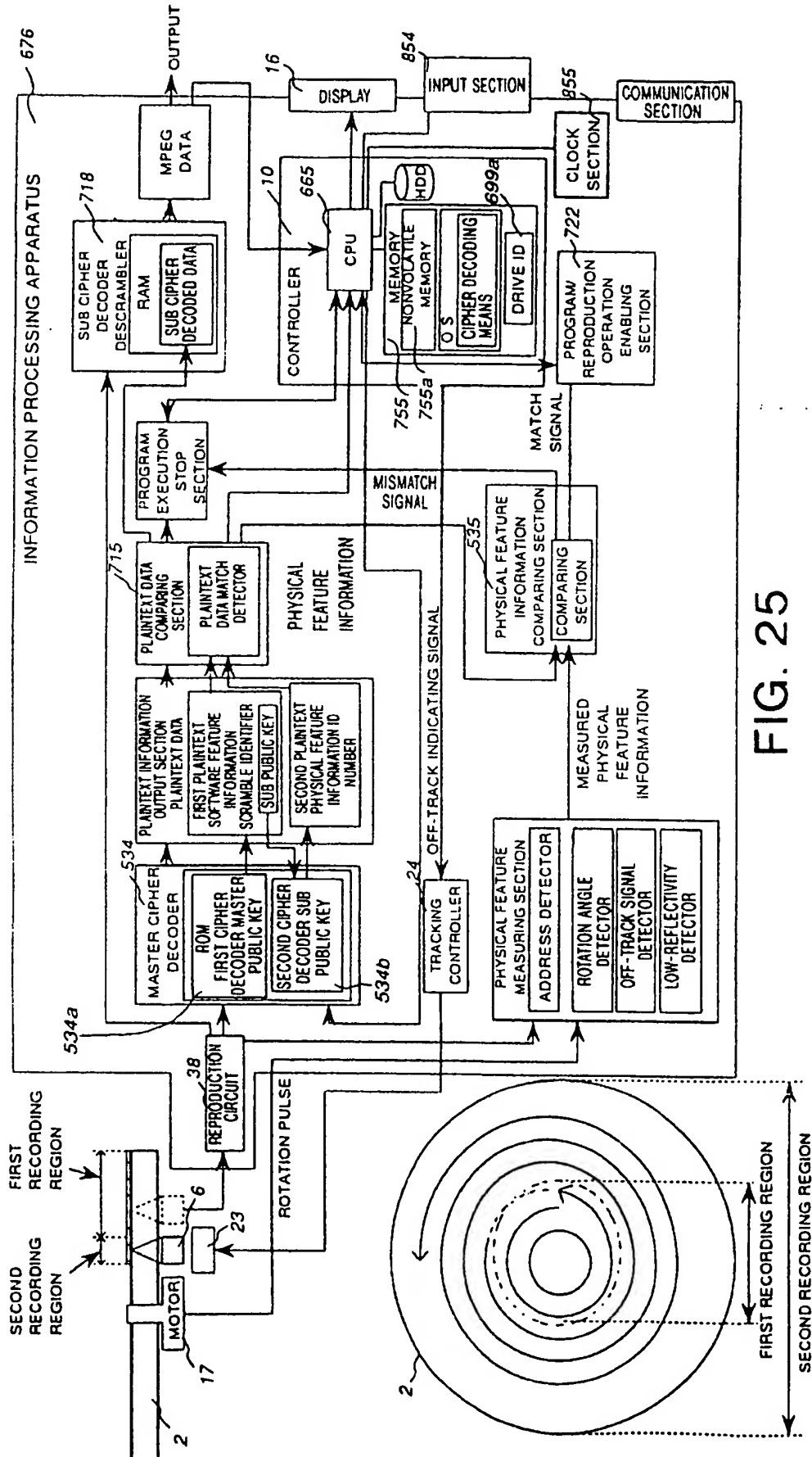
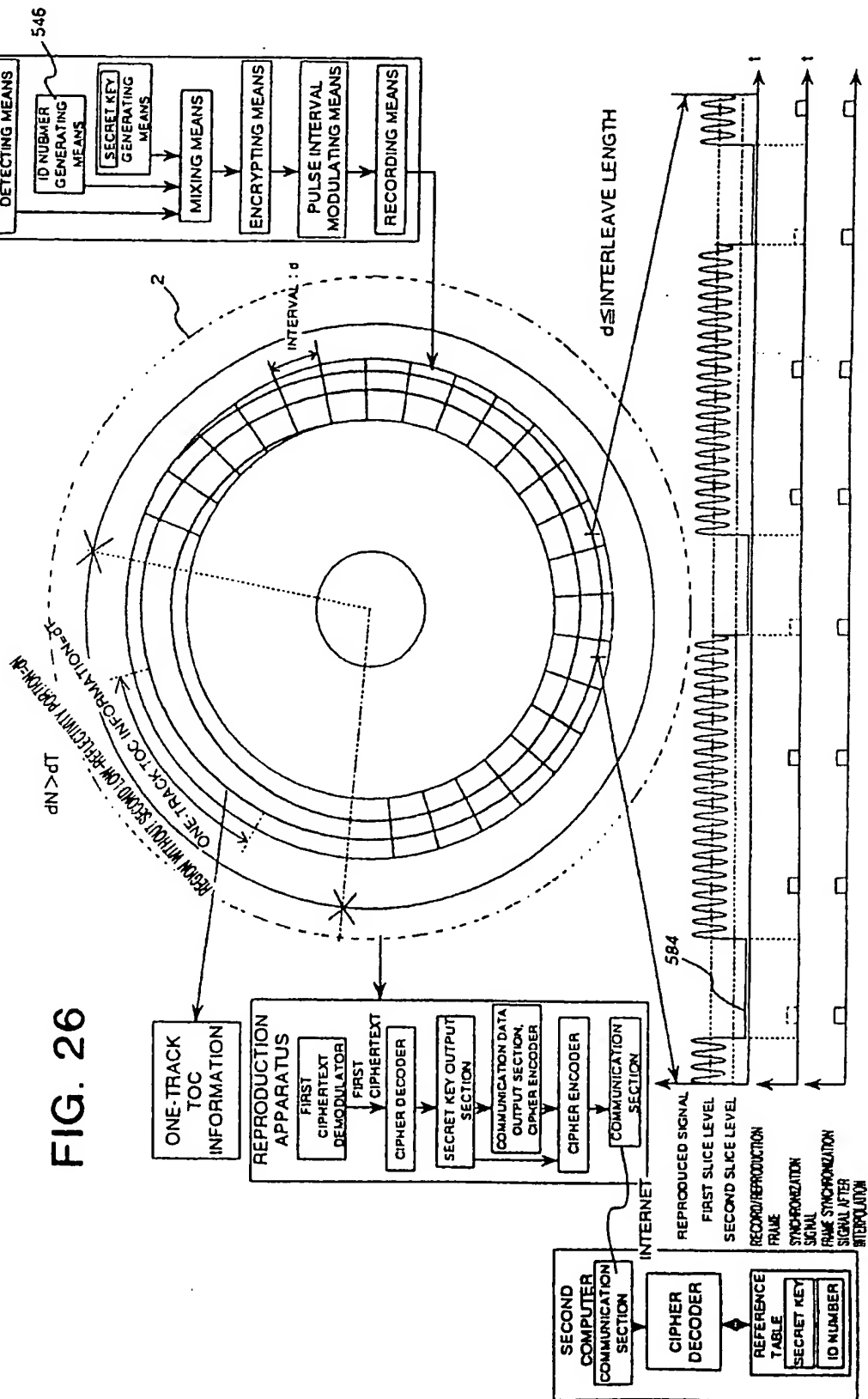
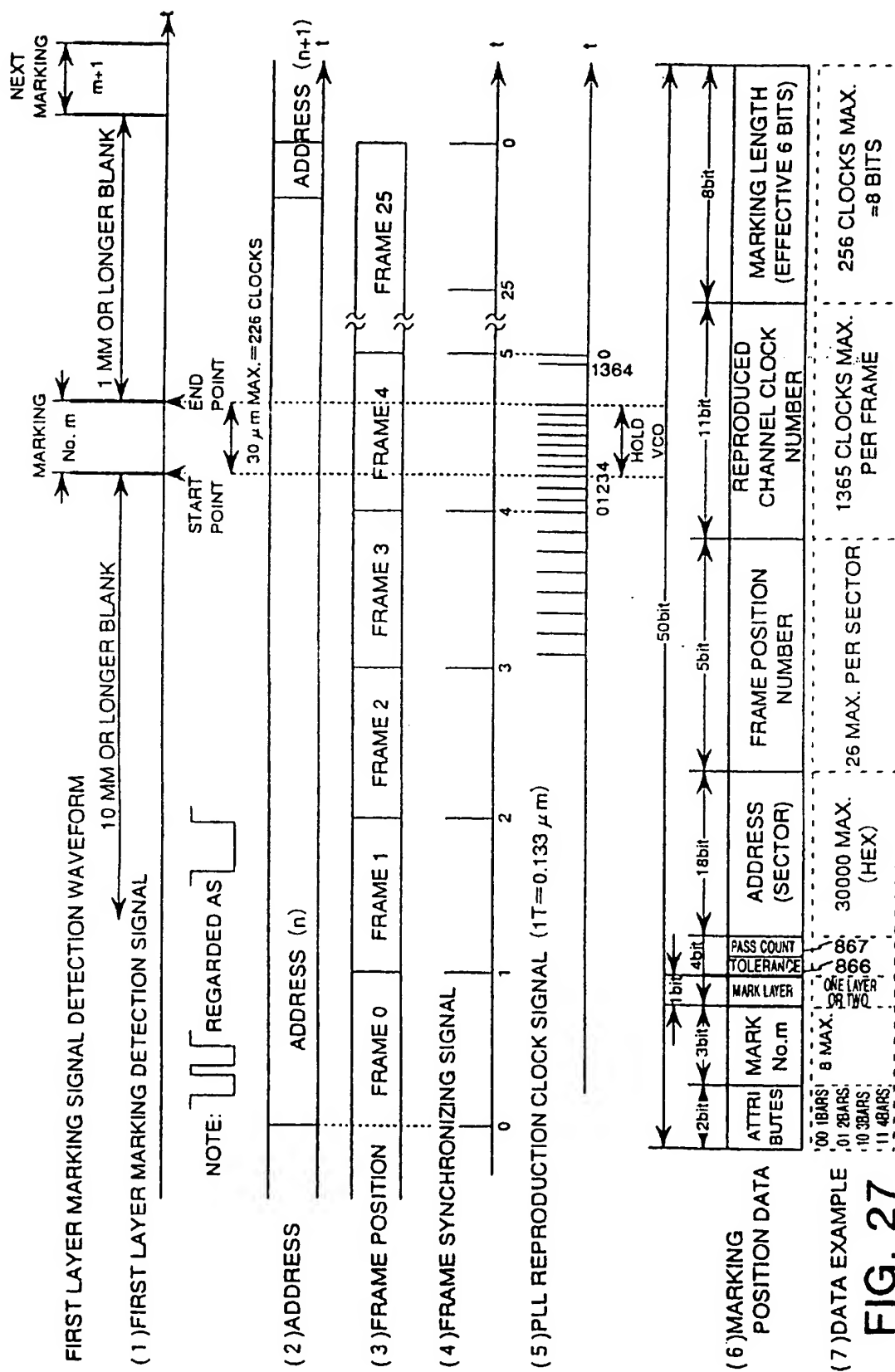
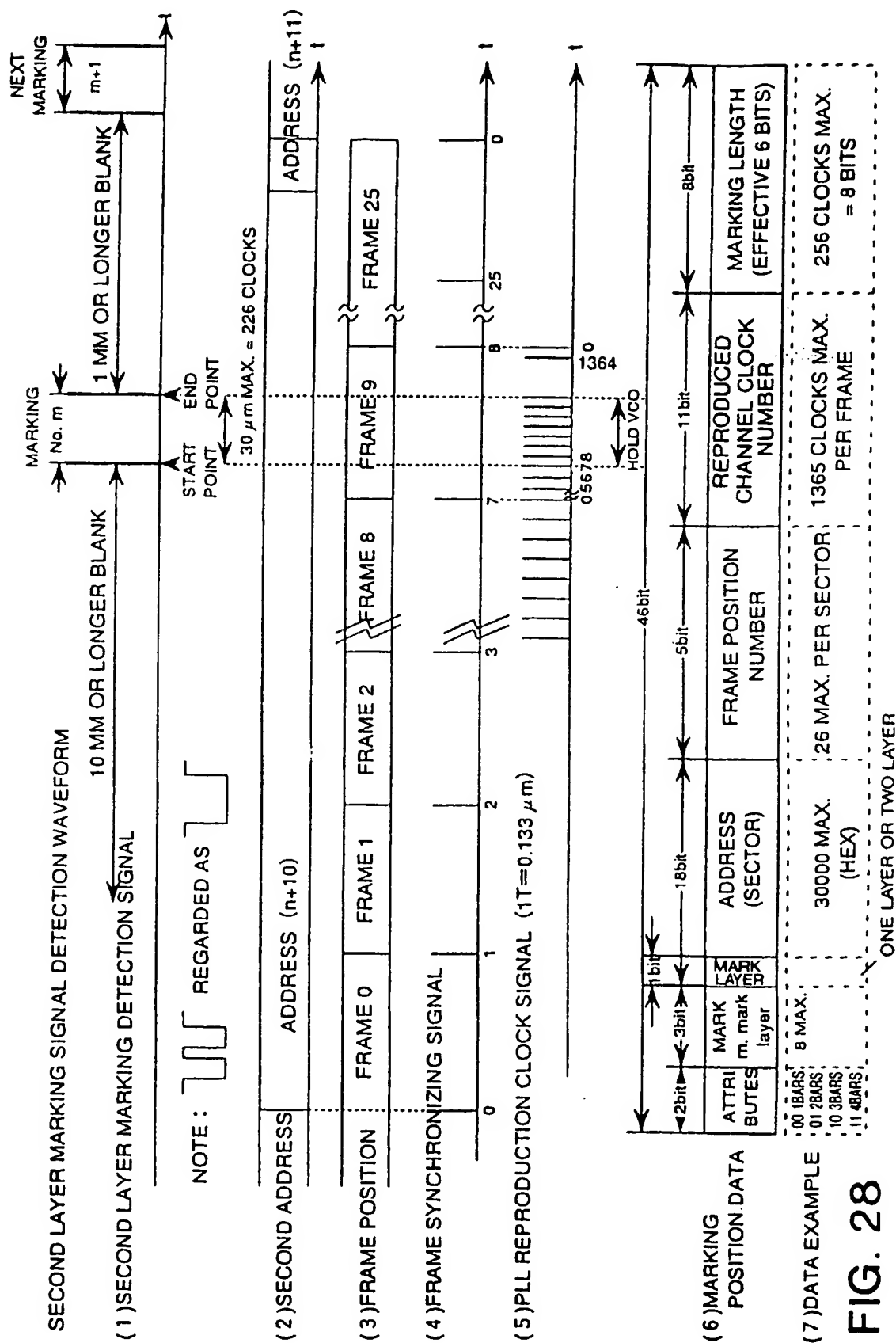


FIG. 25







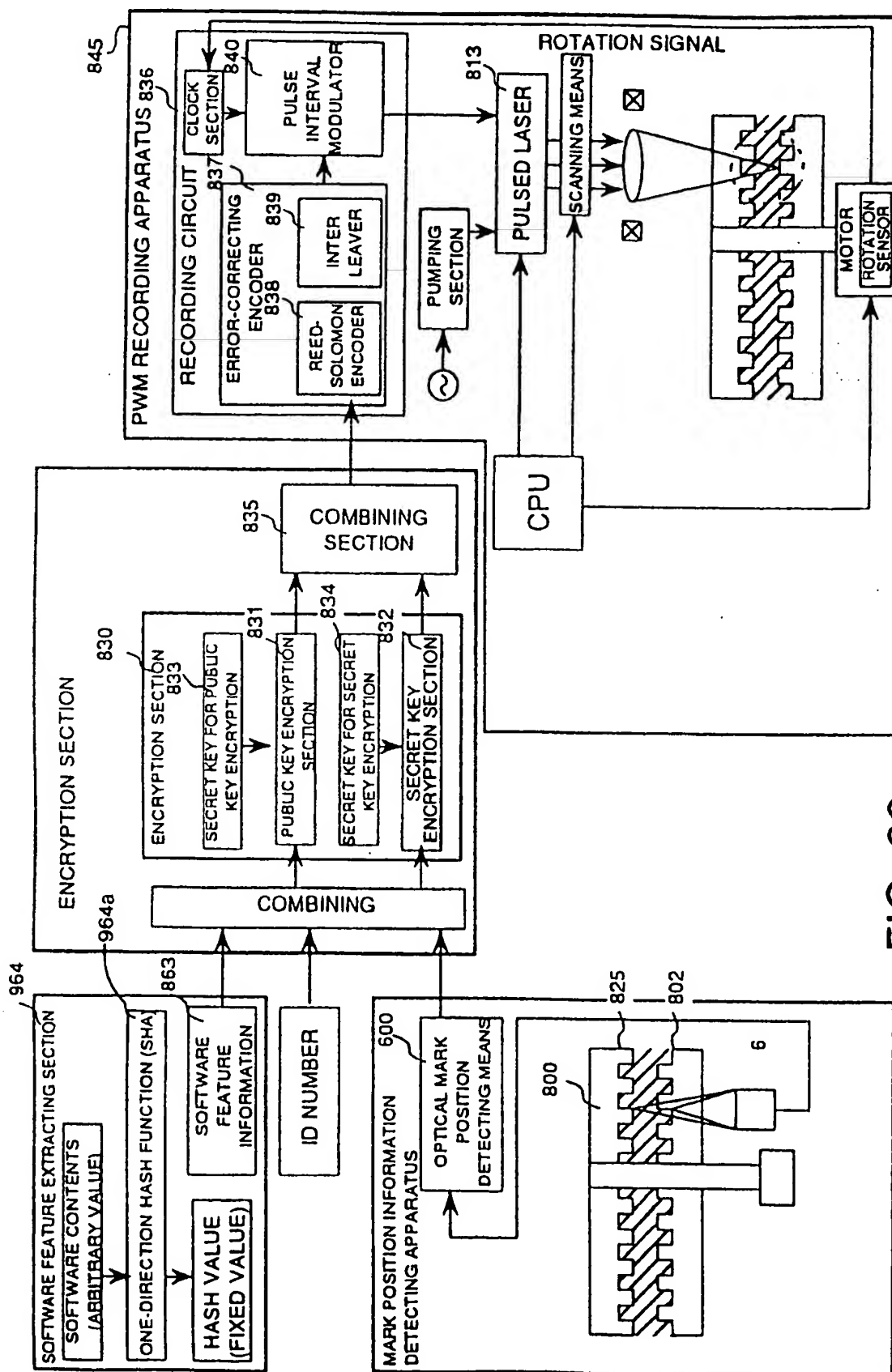
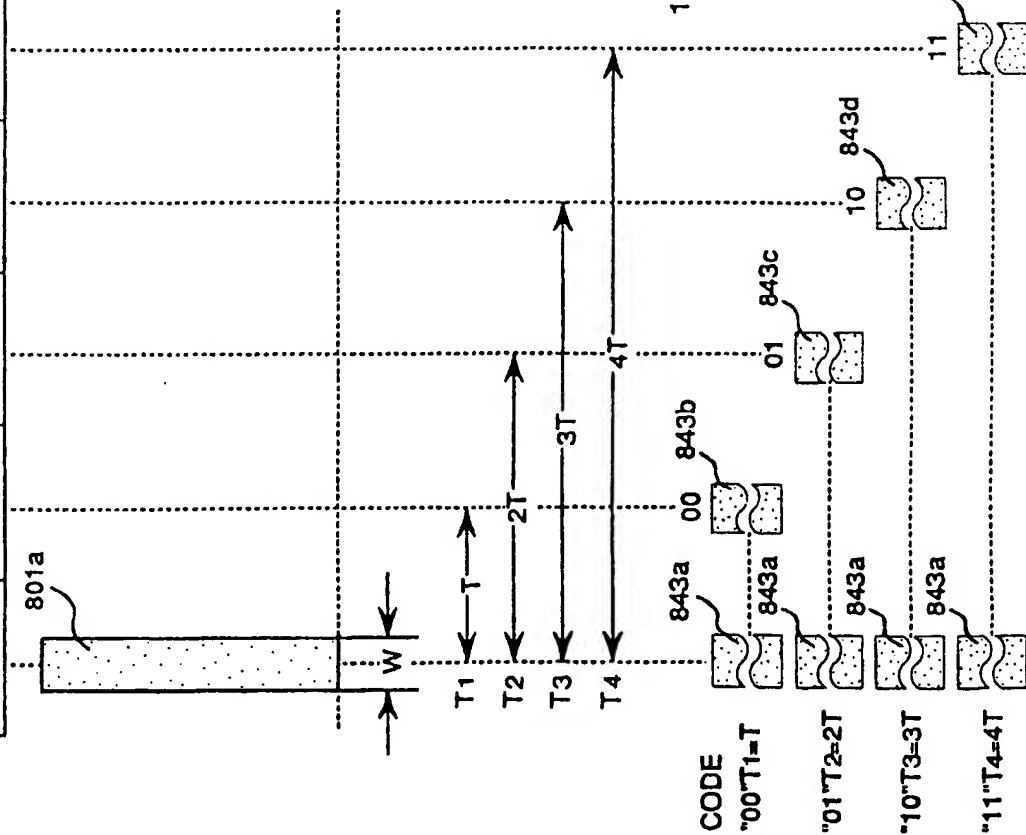


FIG. 29

CODE CLASSIFIED BY PULSE INTERVAL, 4-VALUE PWM RECORDING

CODE	00	01	10	11
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BARCODE LINE WIDTH VERSUS RECORDING DENSITY 842

LINE WIDTH W (μm)	PERIOD T (μm)	RECORDING DENSITY $\mu m/bit$	MAXIMUM RECORDING CAPACITY	LENGTH OF 1 KBITS
1 μm	2 μm	$\mu m/bit$	ONE RING	mm
3 μm	6 μm	2.55 μm	56Kbit	2.5mm
5 μm	10 μm	7.5 μm	28.2Kbit	5mm
10 μm	20 μm	12.5 μm	11.2Kbit	12.5mm
20 μm	40 μm	25 μm	5.6Kbit	25mm
		50 μm	2.82Kbit	50mm

FIG. 30

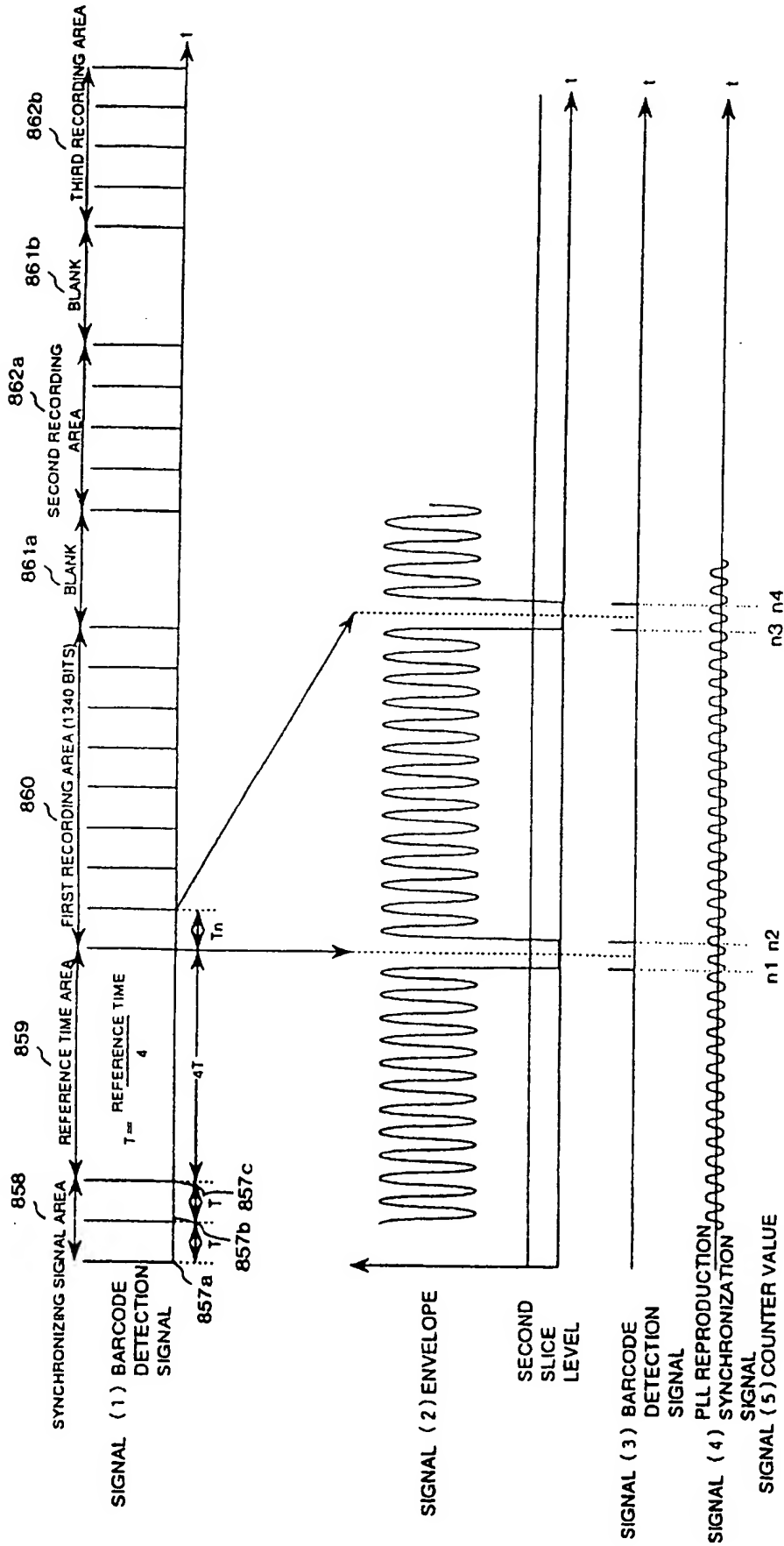
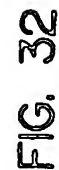


FIG. 31



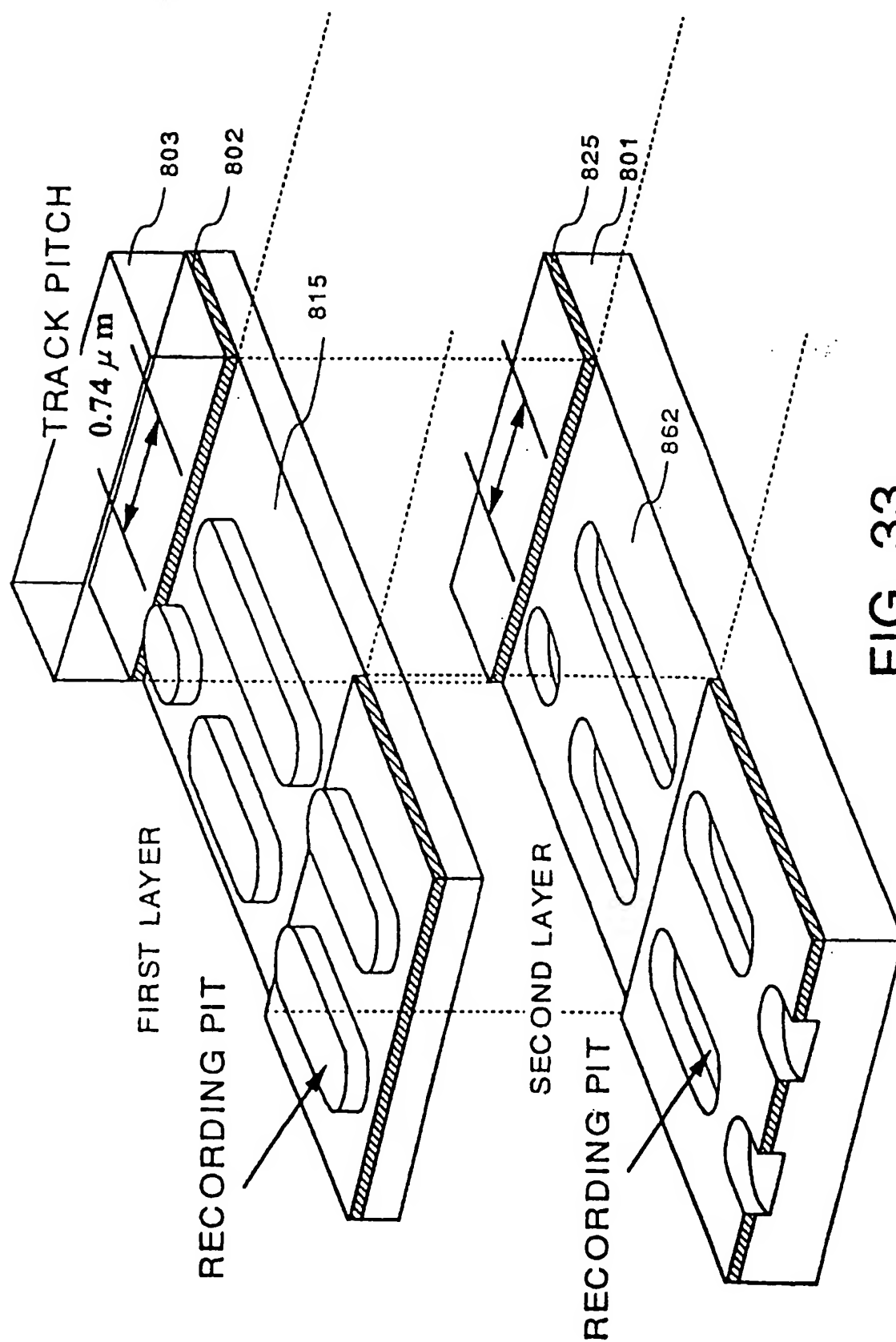
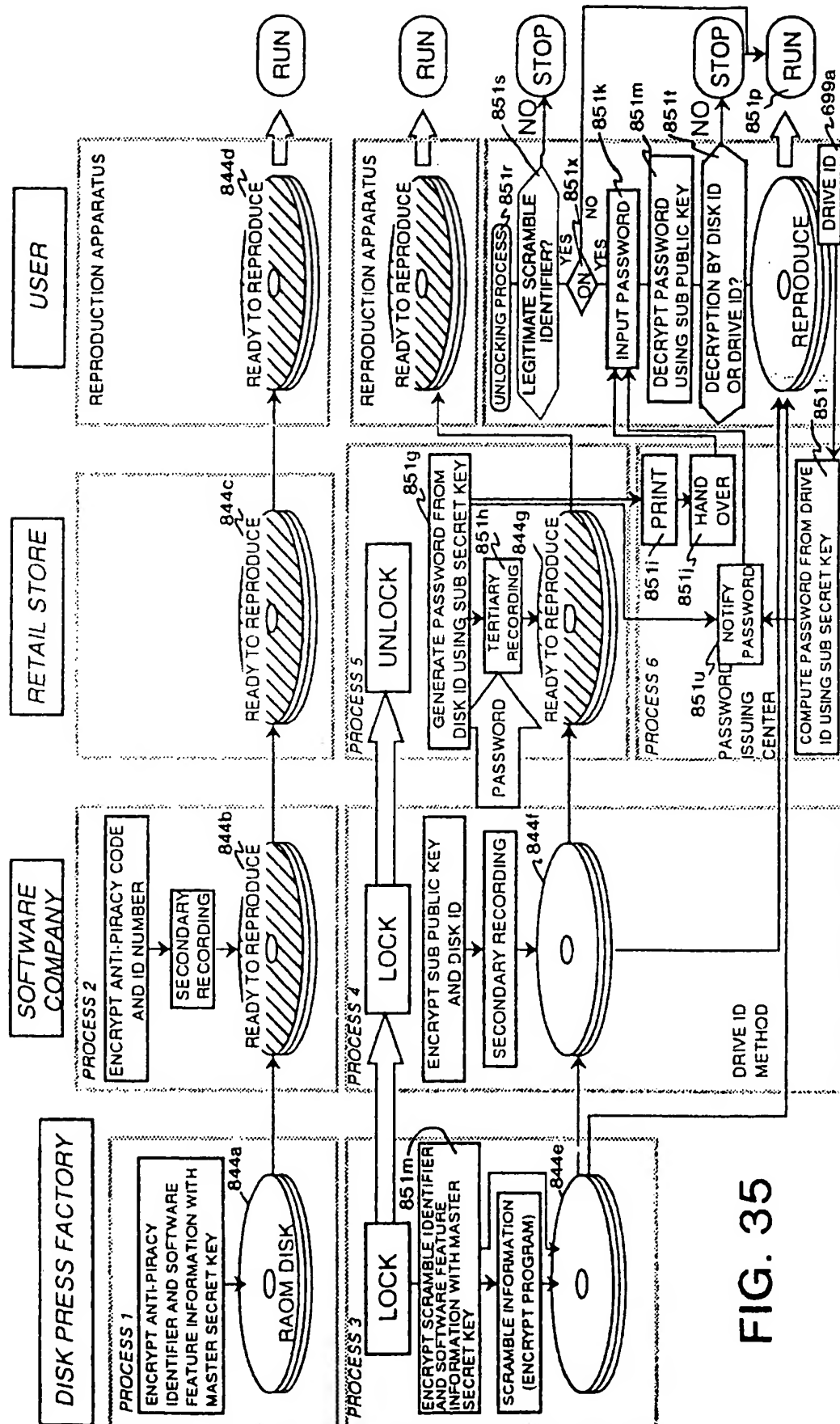


FIG. 33

1. The first part of the document is a list of references. The references are listed in a standard format, with the author's name, the title of the work, and the publisher. The references are as follows:



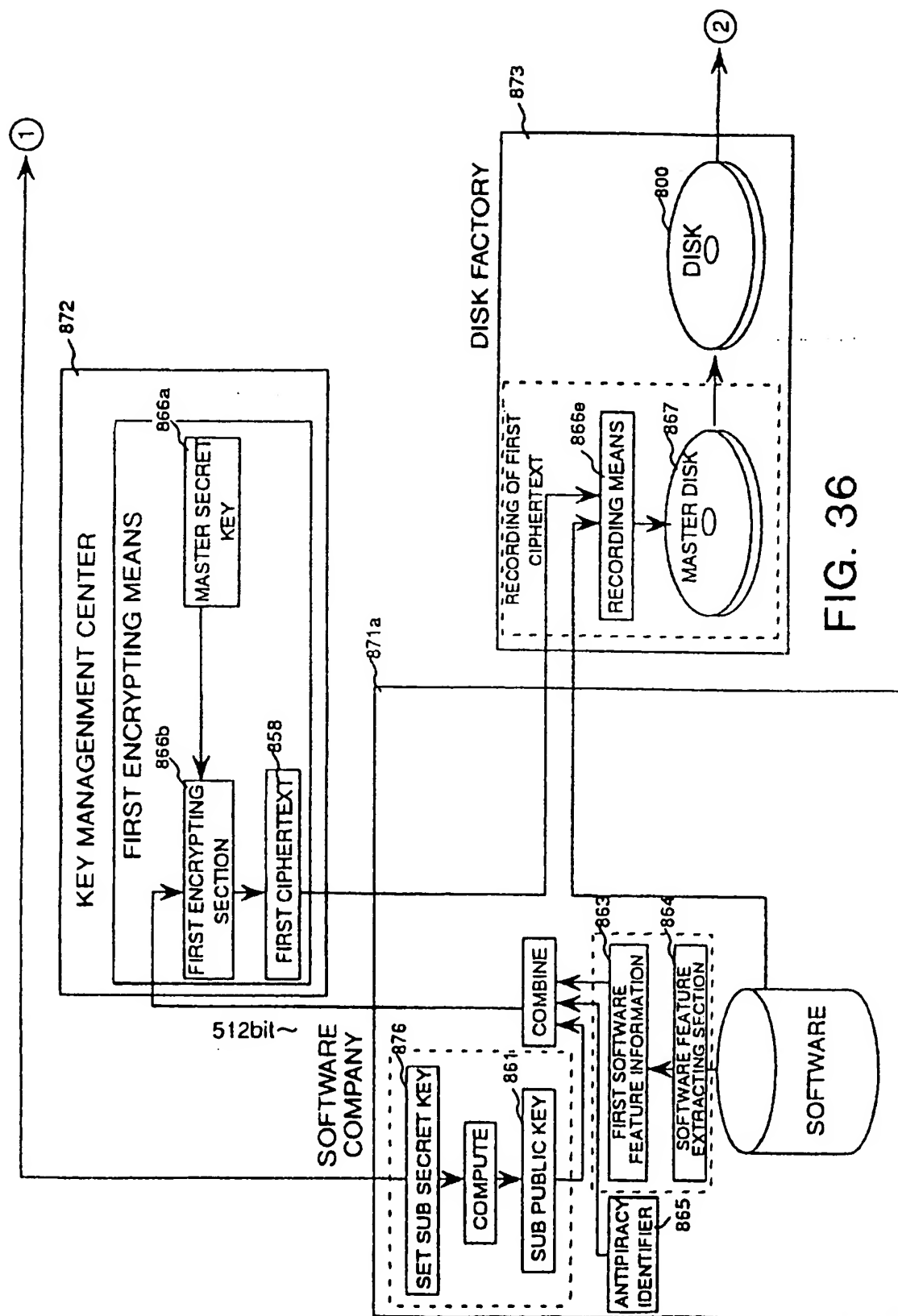


FIG. 36

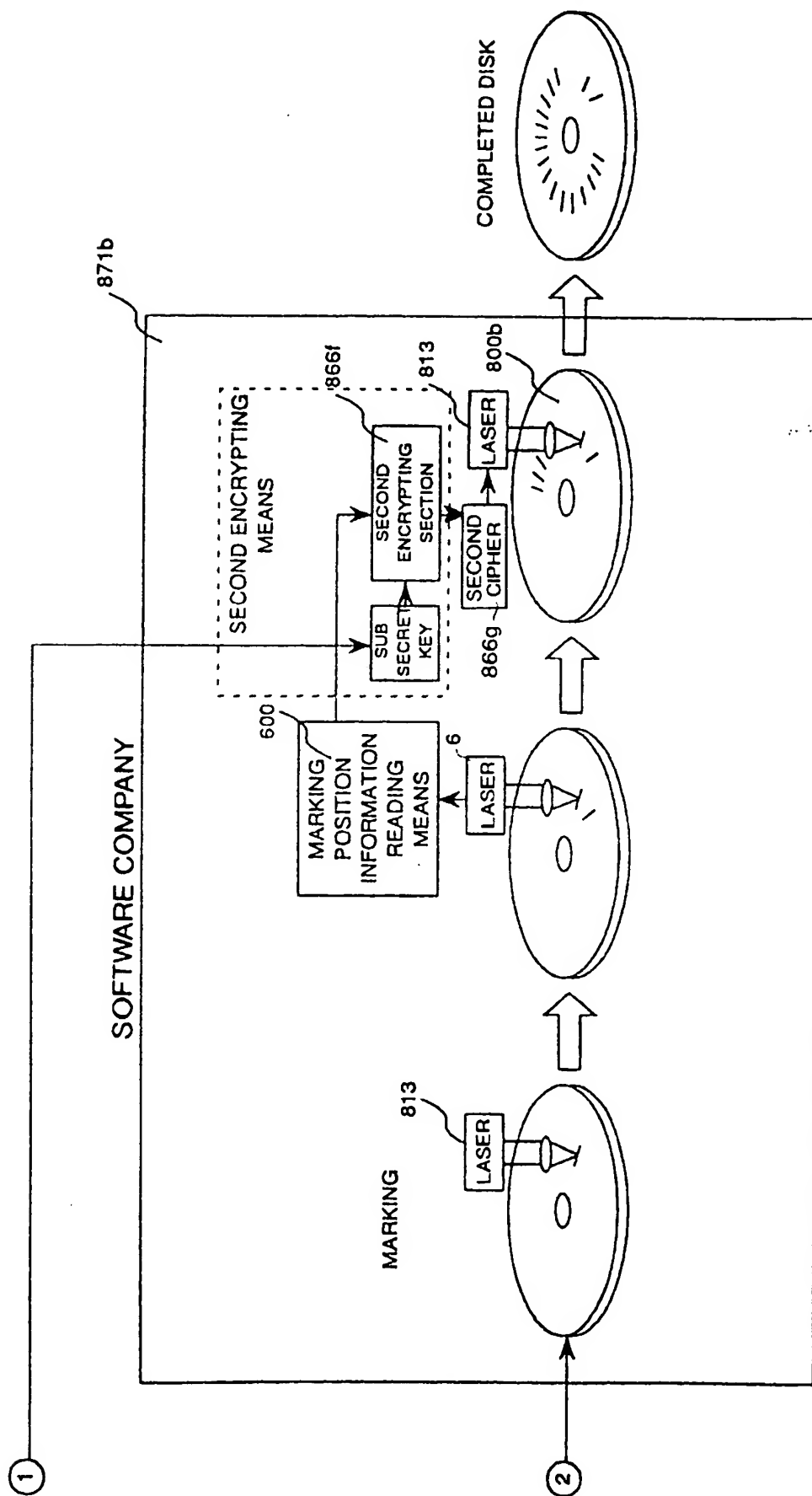
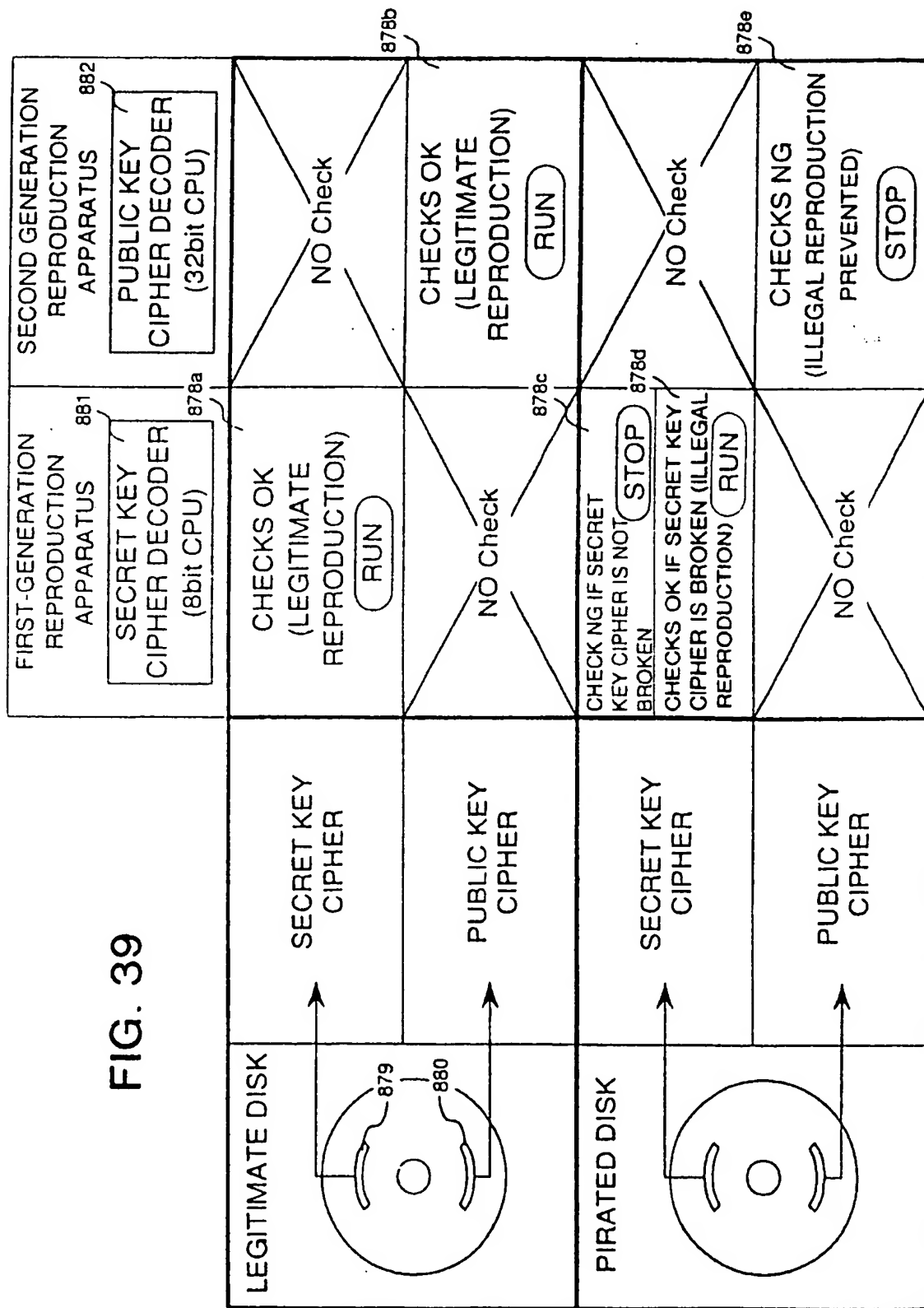


FIG. 37

FIG. 38

FIG. 39



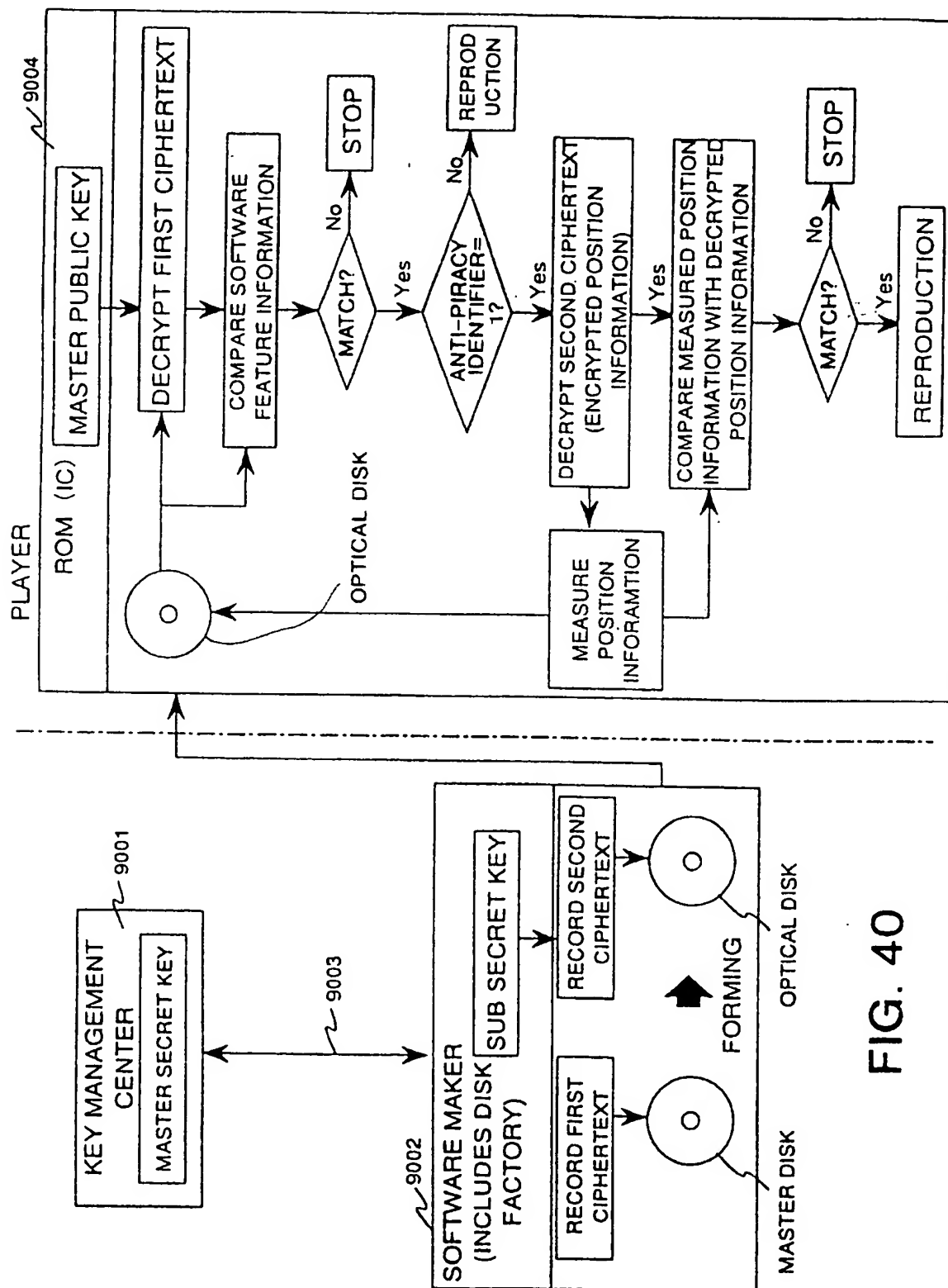


FIG. 40

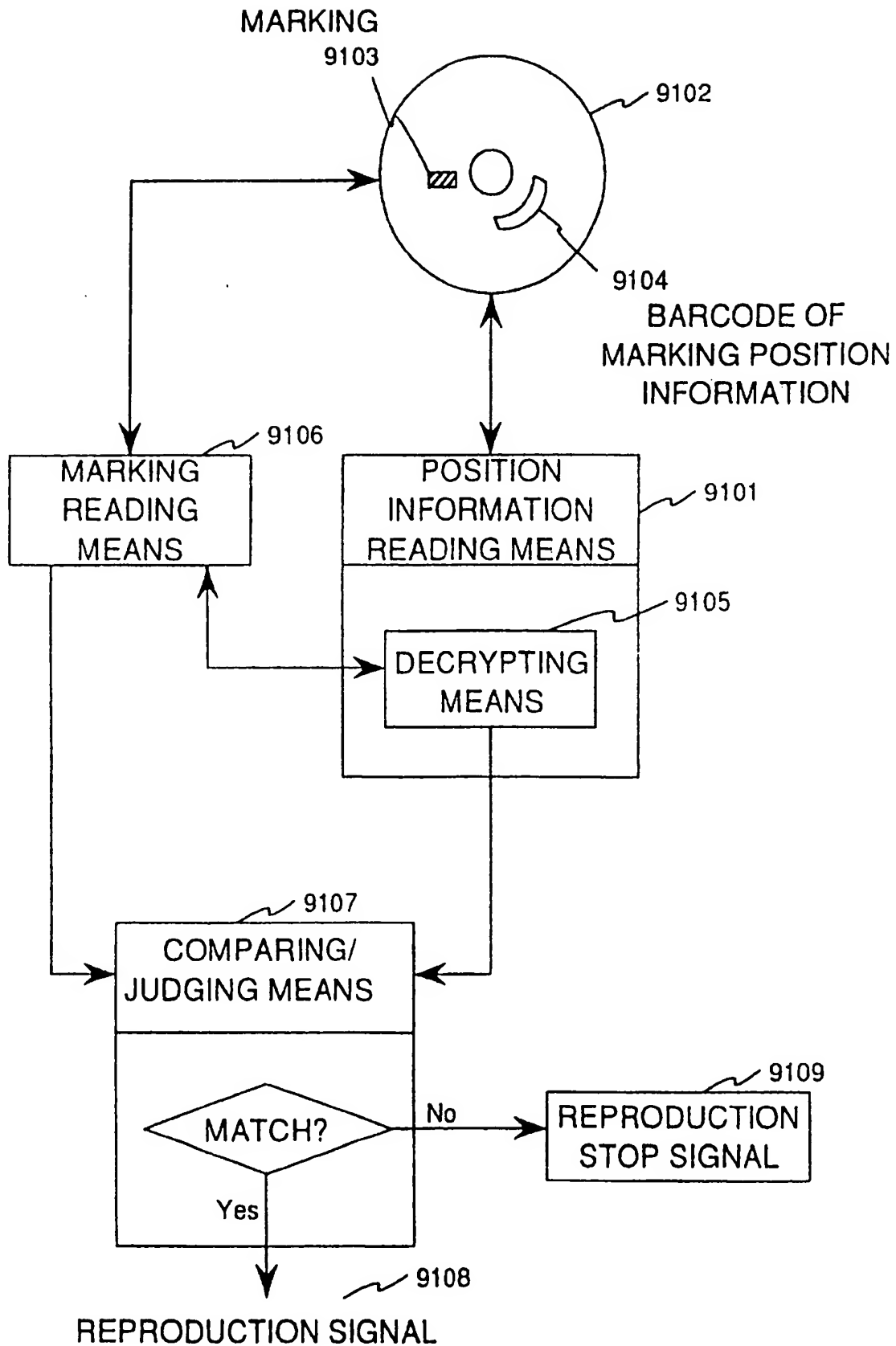


FIG. 41

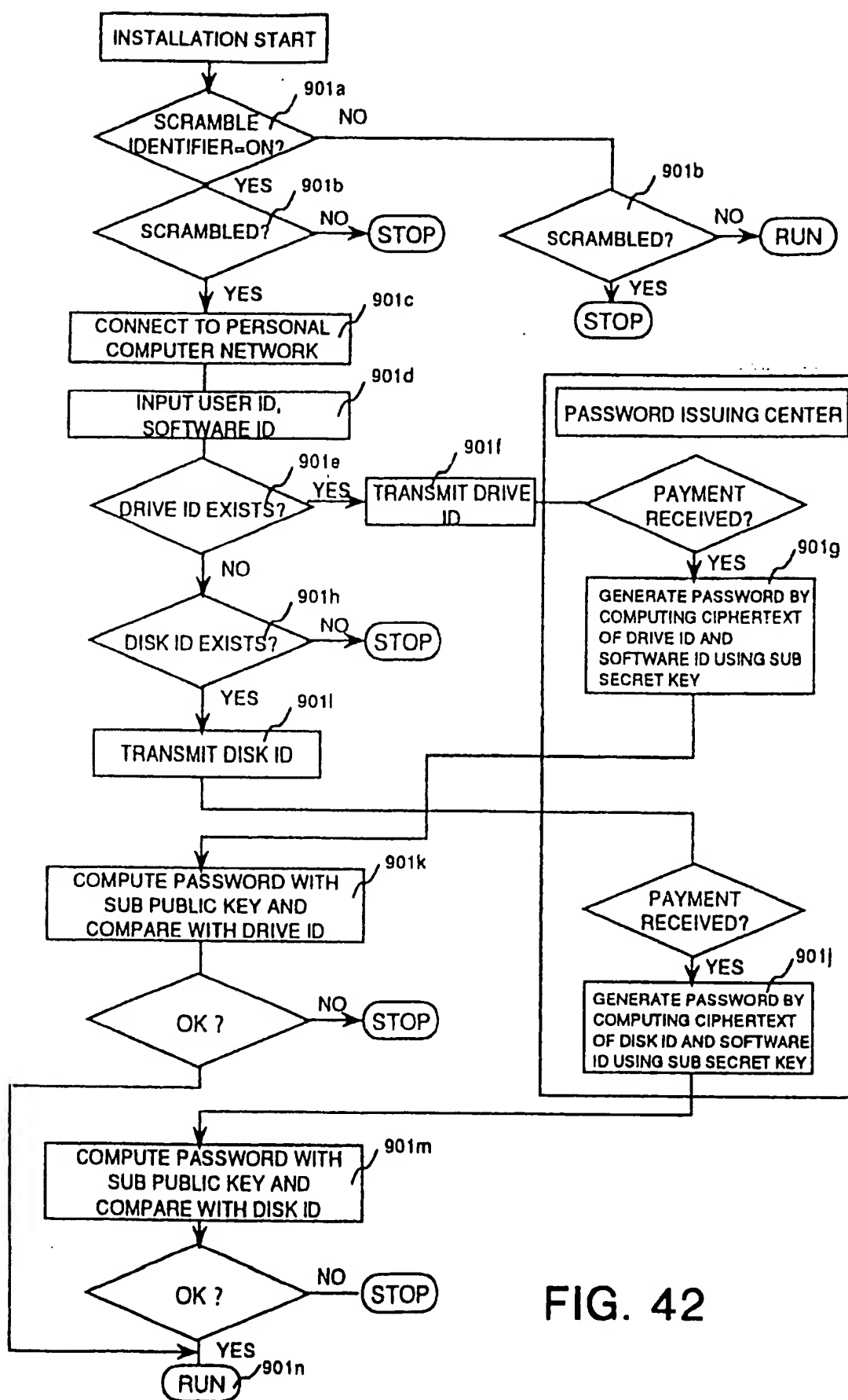


FIG. 42